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SOCIAL MEDICINE IN THE CURRICULUM*

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Sir Wilson Jameson[1] has said that the term "social medicine" in Great Britain is really a synonym of public health. An abbreviated American definition of public health is organized community efforts for (*a*) the hygiene of the environment; (*b*) the control of communicable disease; (*c*) the organization of services for the early diagnosis and preventive treatment of disease in the individual; (*d*) the education of the individual in principles of health; and (*e*) the development of the social machinery which will ensure to every individual in the community a standard of living adequate for the maintenance of physical and mental health. As such, public health becomes a field of social service. The General Medical Council in its evidence in the Goodenough Report[2] makes the aim of social therapy to be "to seek and to promote measures, other than those usually employed in the practice of remedial medicine, for the protection of the individual and of the community against such forces as interfere with the full development and maintenance of man's mental and physical capacity." This paper attempts to answer two questions; first, Specifically what do we want to train the general practitioner for in social medicine? and, secondly, How do we train him?

Medical education is still concerned primarily with teaching clinical pathological diagnosis and treatment, and even in this field of medicine it is as yet backward in its training of the general practitioner in geriatrics, in psychosomatic medicine, and in rehabilitation. In addition to removing these lags, social medicine requires extension of medical education to fulfil the aim of the General Medical Council, quoted above. The general practitioner must be fully aware of the effect on health of all socio-environmental factors which may lead to personal maladjustment and cause social deficiencies resulting in disability of the individual.

The promotive services are chiefly non-medical, but the physician should be aware of their relation to health and disease. Their availability in the community should be based upon a positive population policy to improve the quality of the country's human capital, on which are based the Government's policies on housing and nutrition. Two other important promotive health services are health education and community centres to provide mental, social, and physical recreation. The promotive services require buttressing by social security to assure adequate standards of living. The general practitioner must also be more adequately trained in the preventive services.

Organization a Prime Essential

Having outlined what social medicine wants to train for, I now turn to the chief purpose of this discussion, that is, to decide how training in social medicine can be undertaken adequately by medical schools. For this it is necessary to discuss the *organization* required for satisfactory teaching as well as the *content* of such teaching. The latter has already been the subject of numerous authoritative pronouncements, but the question of organization has received much less attention. It must also be noted that as yet we do not have scientific disciplines covering either the content or the practice of social medicine. The first step should be specific provision in teaching institutions for social physiology, social pathology, and social therapy.

It is now acknowledged without question that the pathologist cannot teach pathology adequately without a laboratory in which each student has his own place and his own microscope; it is similarly accepted that the clinician cannot provide adequate instruction without a minimum of controlled hospital beds per student. What is the corresponding essential for the adequate teaching of social medicine? A community in which the student can go through the routines and apply the techniques of social diagnosis and therapy as he does in clinical diagnosis and therapy, and thereby develop habits of practice useful in his future professional work. It is in such a community, furthermore, that the professors of social medicine can best carry on investigations under controlled conditions.

Until such controlled facilities are provided social medicine cannot hope for full development into a university discipline. Little imagination is required to see that both social physiology and social pathology would develop much more rapidly as scientific disciplines if studied "from the womb to the tomb" in a medical-school-controlled community of 100,000 to 250,000 rather than, as is the case at present, through *ad hoc* facilities. In the absence of a controlled community the techniques of social therapy remain undeveloped; nor can the general practitioner practise social medicine until he has had opportunity as a clerk or intern to habituate himself to proved methods and techniques of social therapy. Only such a controlled community will make it possible to put into effect the important recommendation that the medical schools should take their place as real partners in the National Health Service and discharge their responsibility in the experimentation and demonstration of progress in new forms of medical service.

Health centres in the teaching of social health correspond to hospitals in the teaching of clinical medicine. The Health Act, in recognition of the requirements to train physicians in diagnosis and clinical pathology, has left the control of teaching hospitals in the hands of the university authorities. If physicians are to be trained in the techniques of social medicine university authorities should also control the teaching health centres.

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Concept of the Health Centre

The Health Act provides for the establishment of health centres and gives an implication of the services they will undertake. The nature and scope of the health centre was first described as the general practitioner centre in the Interim Report of the Consultative Council on Medical and Allied Services as far back as 1920[3]; but, despite much lip-service all over the world, there has been practically no move to implement the concept. The draft Interim Report of the British Medical Association's Medical Planning Commission describes a "model health centre." The health centres provided by the Act are discussed both by Scott[4] and by Stark Murray and McNae.[5] The *Lancet* carried a series of articles in 1947 on "Health Centres of To-morrow." However, these reports gave inadequate attention to the promotive and rehabilitative services which constitute the major social emphasis of health centres.

A good discussion of the health centre in relation to social medicine comes from South Africa in recent papers presented by Kark and Kark[6] and by Gale,[7] who stress, as has the British Medical Association in its *Charter for Health*,[8] that the family should be the unit of health care rather than the individual. This cannot be overemphasized if "positive health" is under consideration, because "the biological approach to physical and, more particularly, mental health is through the family, which is the natural unit of society." The South African concept of health care through health centres is briefly as follows:

> Adequate health care is in effect a continuous programme of family welfare coupled with education regarding health. The health centre service places in the field for each 500 families a team consisting of a physician, a nurse, and two health assistants. An "album" is opened for each family to take stock not only of the physical conditions of each member but also of details of such social, economic, and environmental factors as may be related to health and disease. The team periodically reviews the health progress of each family, assisted by such other categories of medical personnel as circumstances may indicate. It is the responsibility of the team to bring about the utilization of the non-medical community resources indicated previously in the promotive service.

Here and there one notes fragmentary progress towards the extension of the teaching institution into the surrounding community. An example in London is the relationship established by the Institute of Child Care with the child-care activities in the borough of St. Pancras. Generally speaking, paediatrics has been most progressive in community work. Other examples are the Institutes of Child Care in Newcastle and Glasgow. While at present limited to public health, many schools of hygiene throughout the world have during the past two decades concluded agreements with local authorities whereby the school administers its own community. Examples are found as far apart as Toronto and Baltimore on the one hand and Warsaw and Manila on the other. As long ago as 1925 the Department of Public Health of the Peking Union Medical College in China secured administrative control of the health services in the ward of 150,000 population in which the college is situated.

There is therefore ample precedent for and no insuperable obstacle to the extension by medical schools of their controlled facilities to the health care of a designated community of preferably some 100,000 to 200,000 population. There are several ways to effect this. One which works satisfactorily and is implied in Section 10 (*a*) of the Ministry of Health's recent Circular 118/47 is as follows. The local authority agrees that the medical school may govern the qualifications and the selection of the senior administrative officer for the area to be appointed by the authority concurrently with an academic position. Any difference in the salary required to procure a competent officer above that paid ordinarily by the local authority would be a responsibility of the medical school. Similarly, the teaching institution would provide such funds which a teaching area might require over and above the average local authority expenditure for a similar population under its administration elsewhere. Thus the final administrative control vests in the local authority, but the medical school has an immediate jurisdiction over the technical aspects of such control. Experience has proved that it is essential for personnel in such a teaching area to be paid on a higher grade than corresponding personnel in non-teaching areas if the technical standards are to prove satisfactory.

Where there is either compulsory or voluntary prepayment the cost to the medical school of such controlled health care facilities is minimal. Here in London, health centres have passed beyond the discussion stage to a definite decision on the number required for the population of such a borough as Hackney. The local authorities and their communities would be the chief beneficiaries in making the medical school their agent for administering such centres, just as local authorities have benefited when they have made their hospitals available for clinical instruction.

The health centre would thus become the basic unit for providing health care in its community and for giving the student an opportunity to learn by self-participation the practice of social medicine along such lines as are outlined under Stage III in the Interim Report of the Royal College of Physicians of London. It is estimated that one physician provided with sufficient ancillary workers can give general practitioner services of health care to approximately 2,000 to 2,500 population and self-participative facilities to one medical student. This means that a health centre serving 20,000 to 25,000 population would provide the essential features of health-care practice necessary for clerkship and internship groups of 8 to 10 students. It is desirable to keep such groups small enough for each student to have ample opportunity for self-participation as well as frequent consultation and seminars with his supervising instructor.

The health centres would also constitute the workshops from which social pathology and physiology would largely carry out their community projects. The content of the former is now generally appreciated. The aim of research in social physiology (biology) would be to determine norms of population-quality, which eventually must constitute the base-line from which social welfare policies of Government would be derived. The material for study, as already is the concept of the Peckham and other groups, would be the family in social action and the effect of environment upon such families. The latter would include the determination of the interaction of socio-economic and other factors of modern society upon mental and physical health. Such studies would require medical personnel with qualifications in social anthropology, who, where necessary, would draw upon and supplement the routine personnel and equipment of the centres. Many studies would of necessity be long-term in nature.

The administration of the medical school health centres should rest with the Department of Social Medicine and Public Health through arrangement with the local authority in the manner described. The professional personnel of the health centres should also, as in the case of the hospital, be members of existing clinical, nursing, and almoner departments, etc. The Department of Social Medicine and Public Health would have two technical interests in the health centres: one corresponding to, and bearing the same relation to, the teaching community as preclinical disciplines do to the teaching clinical departments, and the

other the conventional public health interests, both in teaching and in research. Schools which, in addition to undergraduate, have graduate responsibilities in public health can also utilize the community in question, with functions differentiated into such recognized fields as epidemiology, nutrition, and biostatistics. The Interim Report rightly stresses the importance of medical and psychiatric social workers. The effectiveness of social medicine is as much dependent on these social workers as that of clinical medicine on nurses. It has been suggested in the United States that there should be one medical social worker for every 2,000 and one psychiatric social worker for every 500 out-patients annually. Several universities in the United States have extended the student health service to include the faculty as well as the employees which are under the administration of the Department of Preventive Medicine in association with Departments of Medicine. This provides a particularly interesting group for study and teaching in social medicine.

The fields and scope of social medicine have been so thoroughly discussed[2 9-12] that without additional experience little more can be said Curriculum and instruction are at the beginning of a trial-and-error period. This is confirmed by the recent recommendations of the General Medical Council[14] that for the time being schools "should be left with an ample measure of discretion to determine for themselves how far the instruction of students in the subject should be carried."

Trends in Instruction

Before discussing trends it may be well to summarize the emerging pattern of instruction in the whole field of social medicine and public health in North America. Clinical instruction usually begins in the latter part of the second of the four years of medical education, which do not include the fifth intern year. The pattern in several schools is already taking shape along the lines recommended by the Committee of the Association of American Medical Colleges. Thus at Johns Hopkins biostatistics is given in the first and epidemiology (the nature of disease) in the second year. The third year is given to the economic, social, and environmental factors in disease, while the fourth year is devoted to medical economics and the personal health services.

The more comprehensive trend is the permeation of the regular clinical curriculum with instruction on social and environmental factors. The less comprehensive concerns case-study projects. The latter is rapidly spreading and, as noted, is being undertaken in 39 schools. Its utilization in the following illustrations of clinical permeation makes it unnecessary to describe this trend separately. However, it should be pointed out that curative, preventive, and promotive medicine are brought together and integrated in "case work," and when used by the general practitioner bring him back to his true place in the forefront of the picture which of late years has been outshone by the specialist.

At Harvard special medical social case-teaching conferences are held monthly, attended by all clerks. Each student prepares a fully worked-up case during his clerkship He acts with the aid of a suggestive outline and in consultation with the social service. At Beth Israel Hospital weekly medical social ward rounds are designed primarily to achieve the best co-ordinated medical care for the patient. Any social component bearing on the patient comes up automatically in discussion of the case. Medical social conferences, held weekly, are attended by students clerking in this hospital. The purpose is to deal with obstructions to good medical care and to help the patient in his planning. Generally speaking, experience at Harvard has indicated that the students are too confused by curriculum requirements to grasp the import of social medicine until the clerkship year. There is a considerable literature on the Harvard methods of instruction. Attention is particularly called to the paper of Cohen and Derow.[15]

Washington University is another illustration of clinical integration. In the second year students are assigned in groups of four to single necropsies, with a separate student responsible respectively for clinical history, gross findings, microscopical findings, and social and environmental factors associated with the illness. The student responsible for the last-mentioned item determines at what point in the patient's life measures might have been introduced to prevent the illness or death, and also what either the patient himself or the community doctor could have done to maintain health. In the third year, along with clinical instruction co-ordinated to disease and organ system, there is included the social approach and reference to community facilities. In the fourth year groups of twelve students undertake a six-weeks clerkship in close co-operation with the clinical departments of medicine, psychiatry, and paediatrics. Students return to a more complete study of patients already examined by them in these departments to determine the social, economic, and environmental factors leading to the illness. These studies are discussed in seminars twice a week. This social point of view is assured by having members of the department participate in grand medical rounds, clinical pathological conferences, and ward visits. In addition the department conducts one of the four-a-month "Saturday noon medical clinics." The paediatric co-operation includes weekly two-and-a-half-hour conferences, with discussion of a case study by each clerk during the clerkship.

It is necessary to bear in mind that medical students are not interested in abstractions, because, as pointed out by Flexner, "medicine is learnt; it is not taught." Their interest is specific. Their education, to be effective, must be continuous and self-participative, and not sporadic and "canned." If the factors of social medicine are as important as claimed by its advocates they should be demonstrated in every case the student sees and not just once in a while in exercises.

Unfortunately this clinical integration trend in the United States, although a great step forward, is of a negative nature. The activities practised are limited chiefly to steps taken after disease occurs. Few relate to health promotion. The latter, generally speaking, cannot be undertaken until there is prepayment to provide comprehensive health care. In this respect there are two significant developments taking place in the United States whereby medical schools are organizing themselves to promote comprehensive health care on a prepayment basis to groups in the community and which will be available for teaching purposes. The inauguration of the Health Insurance Plan of Greater New York has led New York University to establish a group clinic to provide comprehensive medical care under this plan. The other schools in New York City may follow suit. Recently medical care of the indigent in Maryland was transferred from Welfare to the State Health Department and the Baltimore City Health Department. The two medical schools in Baltimore are organizing health centres within their premises to provide health care for the people within their own areas. These, together with the university health services, will provide a considerable population for whom comprehensive health care will be available, also for instructional purposes in health care, which must include all four services.

It is because the Health Act provides for a comprehensive medical service on a prepayment basis that England offers

such a unique opportunity to explore and demonstrate the positive aspects of health care, and it is because promotive health care services can best be administered from health centres that these constitute a central focus for the teaching of social medicine.

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THE PROBLEM OF CHILBLAINS

WITH A NOTE ON THEIR TREATMENT WITH NICOTINIC ACID

BY

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Chilblains are relatively common in Britain and on the Continent of Europe, but are rare in Canada and the United States of America. The usual sites of the lesions are the dorsal aspects of the proximal phalanges of the hand, on the plantar aspect of the toes, along the inner border and dorsum of the great toe, and in the region of the heel and Achilles tendon. Chilblains may also occur on the ears, but in this site they resemble frost-bite rather than a true perniosis ; Dubreuilh and Petges (1911) have even reported a case in which a chilblain occurred on the prepuce.

The first sign that a chilblain is developing is a local redness and irritation which comes on in bed or on sitting in front of a fire. The redness becomes more intense and the irritation increases, and if the chilblain is situated on a toe the joint feels stiff and slightly painful. The redness is gradually replaced by a cyanotic tinge and the irritation by pain ; desquamation may supervene or bulla formation and ulceration may develop. In mild chilblains very little thickening and infiltration can be felt, but in severe multiple chilblains, such as may occur in the region of the Achilles tendon, there is marked thickening and induration and the skin feels icy cold to the touch. In older people a chronic type of chilblain may develop on the backs of the fingers. It is associated with hyperkeratosis and painful fissuring of the skin. Pain is a more dominant symptom than irritation.

Hallam (1931), in 100 consecutive cases, found 54 in the 0–10 years age group, 29 in the 10–20 years age group, and thereafter only 17 cases ; Haxthausen (1930) noticed the more frequent occurrence of chilblains in women ; and Wigley (1946) claims that chilblains are frequent between the ages of 5 and 15 years, rare after 20 years, and exceptional after 30 years.

Aetiology

There can be little doubt that cold plays a part in the aetiology of chilblains, although Leduc (1927) suggested that chilblains were first-degree burns due to the incautious exposure of numbed limbs to heat. Becker and Obermayer (1940) believe that the degree of cold is not the sole cause, and attempt to prove this point by stating that natives of India while studying in England do not develop perniones. I questioned three Indian medical students and found that they were all suffering from chilblains. It is certainly correct, however, that there is another factor, as witness the fact that certain individuals may develop chilblains during a thaw when colder weather has left them unscathed.

Mackenna (1927) and Savill (1926) incriminate focal sepsis, such as infected teeth and tonsils, as a predisposing cause. Funk (1899) blames anaemia, but Jausion, Somia, and Meunier (1941) examined the blood in 17 of their 47 cases and found no abnormality apart from a moderate polymorphonuclear leucocytosis in five of them. Glandular dysfunction has its advocates: Embden (1922) and Juster (1927) claim good results with thyroid extracts, but Parkes Weber (1925) and Dore (1928) have not been able to confirm these results. Barber (1926) found the simultaneous administration of thyroid and large doses of iodine of great value ; while, according to Hallam (1931), in a series of 1,275 patients 12 were suffering from myxoedema but were not subject to chilblains. On the other hand, 24 of these patients were under treatment for exophthalmic goitre ; of these, three had suffered from chilblains only since the onset of the hyperthryoidism. More lately a woman doctor (1947) has suggested a hormonal basis in chilblains, as she has noticed that, although a chronic sufferer, she experiences relief during pregnancy. One of my patients noticed the same freedom from chilblains during her two pregnancies.

Wright (1897) advises calcium, but Percival and Stewart (1927) consider a hypocalcaemia improbable. Hallam (1931) found no benefit from the administration of vitamins A and D and calcium, and noticed no difference in the incidence of chilblains in 100 London school-children subjected to carbon-arc light through the winter as compared with control groups. Dr. J. T. Ingram, of Leeds, in a personal communication, said he had noticed that a certain number of patients who were being treated for lupus developed chilblains for the first time while taking calciferol.

Many writers believe that there is a tuberculous diathesis in chilblain sufferers, but Barber (1926) denies this. The past and present incidence of chilblains in 217 men suffering from tuberculosis and undergoing treatment in a sanatorium was found, on personal interview, to be 19.8%. In cases of pulmonary tuberculosis the incidence was 18.6% and in non-pulmonary 24.4%. Their ages ranged from 4 to 63 years. The slightly higher incidence in the non-pulmonary cases may be due to the fact that their average age was considerably less than the average age of the pulmonary cases and that their movements were more restricted. These figures do not, however, prove the relationship between tuberculosis and chilblains, for Winner and Cooper-Willis (1946) estimated that 50% of their sample of Service women (A.T.S.) will at one time or another have suffered from chilblains by the time they reach the age of 40.

It was not found possible to obtain any correlation between the observed peripheral circulation and the incidence of chilblains. Many patients with red congested hands and lowered bodily metabolism, as evidenced by undue intolerance to low temperatures, were found never to have suffered from chilblains. Neither was any relation discovered between patients who often suffered from "dead fingers"

and those who suffered from chilblains. A patient who had a severe degree of Raynaud's disease for two years before lumbar ganglionectomy had to be performed, and who complained of cold feet both summer and winter, never developed chilblains; and an old lady who refused insulin treatment for her diabetes and as a result developed gangrene of the toes of one foot remained free from chilblains.

Andrews (1946), on the other hand, claims that even moderate exposure may produce chilblains in people predisposed by poor peripheral circulation. Hallam (1931), however, found 14 patients with arteriosclerosis in his series of 1,275 cases, and none of them suffered from chilblains; he remarks that in Raynaud's disease chilblains are not commonly seen, and notes how seldom chilblains occur in the aged even when serious organic disease is present.

Pathology

The gross pathology of the chilblain lesion is a vasoconstriction of the subcutaneous arteries and larger arterioles associated with a vasodilatation of the superficial minute vessels.

Microscopically the lesion has been described by Hodara (1896), who found the skin vessels full of blood and dilated, with thickened walls. In the vessels there were hyaline masses of white blood cells without actual thrombosis; the cutis showed dense inflammatory infiltrations of round cells, in which plasma cells were absent, and oedema of the connective tissue. Kyrle (1915) confirmed these observations, and Gans (1925) found thrombi in late cases of chilblains with alteration of the endothelium; the stratum corneum was thickened and the stratum granulosum occasionally so. In the connective tissue there were proliferation of the connective tissue cells and a considerable perivascular infiltration of lymphocytes. Hallam (1931) claims that a histological examination in the early stages shows a rapid degeneration of the small vessels accompanied by perivascular infiltration: this is not a mere transudation of serum, as some writers state, but a sudden and severe damage affecting the vessels of the papillary layer of the cutis Diapedesis of red cells may also take place.

Pathogenesis

Many theories have been evolved to explain the pathology of the chilblain lesion. Harris, Lewis, and Vaughan (1929) think that cold urticaria is due to a dermolysin present in the blood which unites with the skin cells at low temperatures and lyses them on rewarming, setting free histamine; and Goldsmith (1936) suggests that this mechanism plays a part in the formation of chilblains. Unna (1896) maintains that there is a high degree of venous tone and a normal or very low arterial tone in perniosis; and Parrisius (1921) supposes that there is a spasm of the subcutaneous veins, as witness the slow return of blood to an anaemic spot caused by pressure on a perniotic area.

Lewis (1941) later elaborated his theory of the liberation of H-substance from the skin cells as a result of damage by cold; however, this theory does not seem to explain why severe degrees of cold may produce no lesion when moderate degrees cause chilblains in the same individual. It does not explain why persons who develop frost-bite do not at the same time develop chilblains, and it has been found impossible to produce chilblains experimentally by the injection of histamine or by the application of carbon dioxide snow. Simmons (1945) states that the spasm of the vessels in chilblains leads to suboxygenation of the tissues, which of itself gives rise to further vascular spasm; and Gellhorn (1943) points out that continued deficiency of oxygen supplies and blood stagnation increase capillary permeability and lead to dropsical exudations. Sequeira, Ingram, and Brain (1947) claim that erythema pernio is the outward sign of the inability of the skin, including its small blood vessels, to adapt itself to low temperature.

In an attempt to elucidate further the problem of the pathogenesis of chilblains I carried out certain experiments.

Present Investigation

It was noticed that considerable pressure with a glass slide on an established chilblain was necessary to cause blanching, and that on the release of pressure the colour was only slowly re-established. If the same experiment was carried out on the skin of a hand that had been immersed in water at 45° F. (7.2° C.) for three minutes it was found that blanching occurred readily, but that, as in the first experiment, the colour was only slowly re-established. Since in both cases the subcutaneous arteries were in spasm, as witness the coldness of the skin—for Krogh (1922) has shown that the skin temperature is dependent on the rate of blood flow—it follows that in the case of the chilblain there must have been interference with venous drainage. The veins draining the subpapillary venous plexus are thin-walled and pass through the corium in close relation to the collagen bundles, and it is not unreasonable to assume that oedema of the corium can cause pressure on and partial collapse of these veins. This mechanism may cause interference with the nutrition of the connective-tissue cells, with consequent cellular degeneration.

In another experiment the venous return from one hand was stopped by means of a tourniquet applied round the arm, and the hand was then immersed in cold water at 45° F. for six minutes: no cyanosis developed in the hand. With the tourniquet still in position the hand was then immersed in hot water at 115° F. (46.1° C.): cyanosis developed, and was well marked after four minutes. The hand was then returned to the cold water, with the tourniquet still in position, and it was noticed that the cyanosis started to disappear, and at the end of six minutes had been replaced by a bright-red colour. This experiment was repeated on three occasions with the same result. It was thus concluded that the cold had in some way caused a breakdown or dissociation of the carboxyhaemoglobin responsible for the cyanosis. This took place when the venous drainage from the part was occluded.

As has been shown, the venous drainage from a chilblain area is at least partially occluded and the skin temperature is initially very low; therefore it would seem that cold interferes with the formation or causes the breakdown of carboxyhaemoglobin and thus prevents the elimination of the waste products of cellular metabolism. It was felt that these waste products, if allowed to remain for any length of time in the tissue spaces or capillaries, would cause irritation and damage to the tissues resulting in the inflammatory reaction which has been shown to be the basis of the pathology of a chilblain. Several other experiments were done with this theory in mind, and further support was gained for it.

The nature of these waste products, or metabolites, is open to speculation, but they may well be the products of catabolism such as carbon dioxide and lactic acid, or they may be the products of incomplete anabolism such as oxaloacetic acid, fumaric acid, or succinic acid, because enzyme activity is either limited or arrested by cold and therefore the action of the dehydrogenases will be impaired.

One more experiment was performed: the arm and forearm were exsanguinated and a tourniquet applied to occlude both the arteries and the veins. The hand was then immersed in cold water at 45° F. for two minutes and the

tourniquet was then released. It was noticed that the colour returned to the fingers very much more slowly than in a control experiment with the hand in warm water. It was thus concluded that cold can cause spasm of the subcutaneous arteries without the intermediary of metabolites.

To sum up on the basis of this hypothesis it would appear that the pathogenesis of chilblains is the following:

Exposure to cold causes a vasoconstriction of the subcutaneous arteries and interference with cellular metabolism resulting in the formation of irritating metabolites. On warming the part, if the arterial spasm relaxes the metabolites are removed and no lesion supervenes. If, however, the arterial spasm does not relax within a reasonable time more metabolites are formed at the site because of the increase in cellular metabolism due to warming the part; this causes irritation, oedema of the corium, and thus interference with venous drainage, setting up a vicious circle and producing a chilblain. Thus a chilblain will result only when cold causes arterial spasm and there is an upset of the balance between vital cellular activity and venous drainage.

It is claimed that this theory explains the many and varied anomalies of chilblain production.

Treatment

The best treatment of chilblains is undoubtedly prevention, and to this end warm clothing should be worn, a certain amount of exercise taken, and a liberal diet provided.

The number of special measures advocated is legion, but in the main their object has been to improve the local circulation of the affected limbs. Jacquet and Debat (1914) advise raising the hands and actively flexing the fingers several times; McAll (1946), during his internment in China, came across a means of exercising the fingers by playing with two walnuts in the one hand. Bathing the affected parts in hot and cold water alternately has been recommended, and Whitfield (1921) suggests bathing the chilblains in a 5% salt solution at a temperature of 38° C. to relieve the irritation. Haxthausen (1930) has used carbon-arc light filtered through a water filter to exclude the non-luminous heat rays and has also applied carbon dioxide snow for short periods; Steimann (1926) used ethyl chloride locally; Grünbaum (1920) and Stein (1928) advise diathermy; and Henk (1926) recommends one-third of an erythema dose of *x* rays filtered through an aluminium filter. Price (1933) suggests massage, galvanic and faradic stimulation, and Spiethoff (1933) advises Grenz rays; Dore (1928), on the other hand, has tried arterial sympathectomy with unconvincing results. Stimulating ointments containing such substances as iodine, camphor, phenol, turpentine, and methyl salicylate have their advocates. Wigley (1946) advises dressing ulcerated chilblains with penicillin. Brack (1940) used dihydro-imidazole; Grossman (1926) advises the induction of artificial fever by means of "aolan" and "novoprotin." Dr. H. M. Walker, of Glaxo Laboratories, in a personal communication, claims that the value of vitamin D (5,000 units of calciferol and 5 mg. of calcium oleate per ml.) in the treatment of chilblains is not due to its calcium content but to the fact that it is a colloid suspension containing negatively charged colloids which have a specific stimulating action on the reticulo-endothelial system.

Herxheimer (1942) advocates a modification of Bier's method of passive congestion, and Simmons (1945) treated chilblain sufferers by means of a paravertebral sympathetic block using 20 ml. of a solution containing amethocaine 1/1,000 and adrenaline. Whitfield (1921) recommends nitroglycerin 1/200 gr. (0.32 mg.) and erythrol tetranitrate 1/50 gr. (1.3 mg.) thrice daily; Grove (1926) advises prophylactic injections of sodium cacodylate; Lefevre, Dubarry, and Halle (1942) treated 85 cases with intravenous fluorescein, and had to record failure in only 9.4%. Jausion, Somia, and Meunier (1941) used up to 600 mg. of nicotinamide daily in their treatment of chilblains; they administered it both orally and by injection, and by this method they claimed they could cure mild cases in one week, moderate cases in two weeks, and severe cases in three weeks. Watson (1941) injected each chilblain with 0.5 ml. of histamine; this caused an immediate and intense irritation locally, with subsequent alleviation.

Having observed the vasodilator action of nicotinic acid I decided to use it in the treatment of the cold congested hands and noses from which so many young children suffer in the winter; the results were dramatic. It was then decided in the winter of 1943–4 to attempt the treatment of chilblains, which has for so long been unsatisfactory in general practice, by the oral administration of nicotinic acid. The results were most gratifying, not one failure being recorded. In the following winter similar results were obtained, but it was felt that the weather had not been severe enough nor the chilblains bad enough to assess the real value of this treatment.

The winter of 1946–7 proved so severe and unremitting and the results so successful that it was decided to place this method of treatment on record. The basic dose of nicotinic acid administered was for an adult 50 mg. and for a child 25 mg. thrice daily immediately after meals; this tended to reduce the incidence of flushing, and no doubt caused a prolongation of the vasodilator action of the nicotinic acid. In severe cases the dose was increased, but in no case was it found necessary to give more than 300 mg. a day.

Relapse was common when the nicotinic acid was withdrawn, and advantage was taken of this fact to assess the value of the treatment. In eight patients who were asked to stop taking nicotinic acid as soon as their chilblains were cured or considerably improved, the chilblains returned but were promptly relieved by further treatment. Two patients who were cured by the administration of nicotinic acid were asked to stop treatment and to wait until the chilblains returned. They were then given nicotinamide in similar doses (the substitution was unknown to them), but no improvement resulted; they were then again treated with nicotinic acid with complete success.

It follows from this that it is of no prophylactic value to administer nicotinic acid for a long time before the advent of the chilblain season in an attempt to build up some sort of reserve. It also follows that nicotinic acid does not act primarily by virtue of its enzyme action, as the radical of coenzymes 1 and 2, otherwise nicotinamide in similar doses should have effected as satisfactory a cure.

Presentation of Cases

The cases presented are unselected and consecutive, and were collected in the normal routine of general practice. Detailed notes were made of 27 cases so treated, of which 21 were female and 6 male. The incidence and distribution of chilblains in 15-year age groups for males and females is shown in Table I.

TABLE I.—*Incidence and Distribution of Chilblains*

Ages in Years	Female	Male	Hands	Feet	Hands and Feet
0–14	2	1	—	2	1
15–29	5	—	—	4	1
30–44	10	2	—	11	1
45–59	—	3	—	1	2
60–75	4	—	2	1	1

The results of treatment arranged in 15-year age groups is shown in Table II. Cases were considered to be improved if *all* subjective symptoms such as irritation and pain were

TABLE II.—*Results of Treatment*

Age in Years	Cured		Improved		No Difference	
	Female	Male	Female	Male	Female	Male
0–14	2	—	—	1	—	—
15–29	4	—	1	—	—	—
30–44	6	2	3	—	1	—
45–59	—	1	—	2	—	—
60–75	—	—	4	—	—	—
Total	12	3	8	3	1	—

abolished, but they were not counted as cures unless there was no evidence of chilblains on examination. Observations were made on results only during the severe weather.

Every patient was asked if this was the best treatment so far tried, and 26 responded in the affirmative; this gives a failure rate of only 3.7%. The one failure was a female telephonist aged 30, who suffered from very severe chilblains of the hands and feet. Her work may have militated against a cure. She was given only 150 mg. of nicotinic acid daily, and in the light of further experience it was felt that the dose should have been increased.

Four patients blamed a change in the weather, such as a thaw, for the onset of their chilblains; one blamed sitting still for a long time; two blamed sitting in front of a fire; sixteen blamed cold weather and frost; four blamed cold weather and damp. All but two said sitting in front of a fire made the chilblains worse. Fifteen were chronic sufferers and got chilblains practically every year; of these eight were cured and seven improved. Nine were sufferers for the first time: of these six were cured and three improved. The others were only occasional sufferers.

Two patients complained of occasional cracks at the corners of the mouth and one of a sore tongue, but it was difficult to relate these symptoms to a systemic deficiency of the vitamin B complex. Two patients noticed improvement after taking only 50 mg. of nicotinic acid; five noticed improvement after treatment for three days, ten after four days, six after seven days, and three were indefinite.

It is interesting to record that two patients found that they could tolerate the cold with much greater comfort during treatment; this may have been due to a "stoking up" of skin-cell metabolism resulting from the vasodilatation of the subcutaneous arteries.

Untoward effects noticed during treatment were of little significance and were only transitory: constipation was recorded in three cases, sleepiness in two, slight headache in two, and transient flushing and mild irritation of the skin in twelve.

Conclusions Regarding Treatment

On the basis of the action of nicotinic acid—namely, vasodilatation—it stands to reason that this treatment cannot be expected to benefit to any great extent chilblain sufferers who have pronounced arteriosclerosis or other condition of the peripheral circulation which interferes with the vasodilatation of the skin vessels. Nevertheless it is felt that nicotinic acid has a specific action on chilblains, and that the very vast majority of chilblain sufferers will benefit from this treatment.

Treatment should start as soon as the first sign of a chilblain makes its appearance and should be continued, possibly in reduced dosage, until the chilblain season has passed.

Summary

The problem of chilblains is discussed as regards their aetiology and pathogenesis. It is claimed that nicotinic acid, given orally, has a specific effect on chilblains. Twenty-seven cases are quoted to prove this, and it is suggested as the treatment of choice in general practice owing to its ease of administration and its freedom from serious untoward effects.

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HYPOTHALAMUS AND PITUITARY GLAND

WITH SPECIAL REFERENCE TO THE POSTERIOR PITUITARY AND LABOUR

BY

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Marañón (1947) reported the case of a woman who had diabetes insipidus with an associated uterine atony, and discussed the light that this and similar cases throw on the mechanism of labour. Two important facts emerge from a study of such cases: (1) that lesions of the hypothalamus or neurohypophysis which produce diabetes insipidus may also interfere with the mechanism of parturition, and (2) that similar lesions which produce interference with the secretion of the posterior lobe of the pituitary gland (as evidenced by the diabetes insipidus) do not necessarily interfere with the activity of the anterior lobe of the pituitary (as shown by normal menstrual cycles and pregnancy). It is felt that a summary of recent work dealing with these points may be of interest in view of Marañón's paper.

Anatomy of the Hypothalamico-hypophysial System

The Neurohypophysis (Posterior Pituitary Gland).—It is now generally recognized that the secretory tissue of the posterior pituitary exists in the median eminence of the tuber cinereum, in the infundibular stem, and in the infundibular process, all these parts being included by the term neurohypophysis (Fig. 1). The main anatomical connexion between the hypothalamus and neurohypophysis is a rich nervous pathway, of which the most important element is the supraoptico-hypophysial tract. There are also good grounds for belief in the existence of a tract from the paraventricular nucleus to the neurohypophysis. The origin and destination of the fibres in the tubero-hypophysial tract, situated in the posterior wall of the neural stalk, are unknown.

The Adenohypophysis (Anterior Pituitary Gland).—The adenohypophysis consists of the pars tuberalis, pars intermedia, and pars distalis (Fig. 1). These three structures

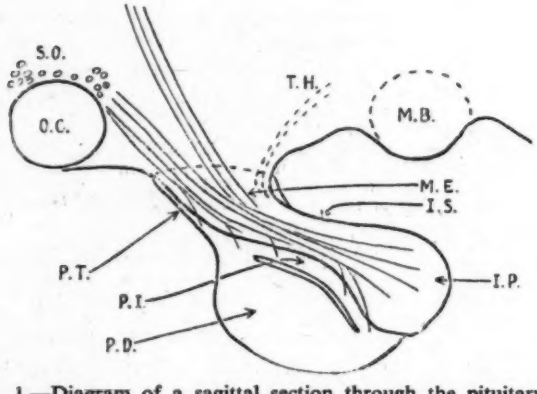

FIG. 1.—Diagram of a sagittal section through the pituitary and hypothalamus to illustrate the hypothalamic innervation of the pituitary gland. The neurohypophysis—which includes the median eminence (M.E.); infundibular stem (I.S.); and infundibular process (I.P.)—receives a rich innervation from the supraoptic nuclei (S.O.) and a supply from the paraventricular nuclei (P.V.). The tubero-hypophysial tract (T.H.) enters the dorsal or caudal wall of the tuber cinereum and infundibular stem. The three parts of the adenohypophysis are termed the pars distalis (P.D.), pars intermedia (P.I.), and pars tuberalis (P.T.). A few nerve fibres cross from the neurohypophysis to the adenohypophysis. O.C.=optic chiasma: M.B.=mammillary body.

receive only a meagre innervation, and there is no sound evidence that the few nerve fibres found in them are other than vasomotor to the hypophysial vessels.

Both the posterior and the anterior lobes of the pituitary possess a systemic blood supply from the internal carotid artery, the venous drainage being in both cases to the adjacent venous sinuses. The vascular fields of the infundibular process and the pars distalis are largely independent, the pars intermedia being relatively avascular. The pars distalis, however, has a rich vascular connexion with the median eminence in the form of a portal system of blood vessels (Fig. 2). These latter vessels were first described by Popa and Fielding (1930, 1933), and later by Wislocki and King (1936), and Green and Harris (1947). Small arterial twigs from the internal carotid arteries supply a rich vascular plexus between the pars tuberalis and median eminence. From this plexus "vascular tufts" or "sinusoidal loops" penetrate the median eminence over an area co-extensive with the pars tuberalis. These loops unite to form the wide trunks of the portal vessels which descend to the pars distalis and so drain into the typical sinusoids of this part of the gland. This vascular system has been found to exist in the rat, guinea-pig, rabbit, cat, dog, monkey, and man. Also, the porpoise, in which the infundibular process is separated from the pars distalis by a thick dural septum, possesses a typical hypophysial portal system (Harris, 1947b). Green (1947), in a careful study of the amphibian hypophysis, confirms the presence of hypophysial portal vessels in the frog and analogous vessels in

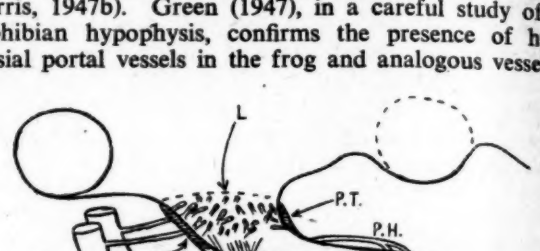

FIG. 2.—Diagram of a sagittal section through the pituitary and hypothalamus to illustrate the systemic arterial supply of the pituitary gland, and the hypophysial portal system. A.H. and P.H., the anterior and posterior hypophysial arteries; I.C., branches from the internal carotid arteries, supplying the pars distalis and infundibular process, respectively. Small twigs from the internal carotid arteries run to the pars tuberalis (P.T.) and supply a vascular plexus situated between this structure and the median eminence. From this plexus capillary sinusoids arise and penetrate the median eminence in the form of loops or tufts (L.). These capillaries unite into the large portal trunks (H.P.V.) and pass down into the pars distalis.

urodeles. Thus it may be said that these vessels are widely distributed amongst the vertebrates. All the evidence points to the direction of blood flow in these vessels being from the median eminence to the pars distalis. Since the pars tuberalis has no proved endocrine function, and since it bears a constant relationship to the upper set of capillaries of the portal vessels, it is suggested that the significance of this structure lies in the fact that it forms a bed for the vascular pathway from the median eminence to the pars distalis (Harris, 1947c).

Influence of the Nervous System over the Hypophysis

The hypothalamus undoubtedly influences the secretion of the posterior pituitary by means of the supraoptico-hypophysial tract, as first clearly shown by Fisher, Ingram, and Ranson (1938).

There is much evidence that nervous stimuli affect the activity of the anterior pituitary gland, and so indirectly, through the eutrophic hormones, other endocrine glands such as the gonads, thyroid, and adrenal cortex. In the experimental field Marshall (1942, 1947) has collected and summarized the evidence that external influences (exteroceptive factors) affect the reproductive rhythm of many birds and mammals by an action through the hypothalamus and anterior pituitary. Selye and McKeown (1934) uphold the view that suckling stimulates the anterior pituitary through reflex nervous pathways and so maintains milk secretion. Electrical stimulation of the hypothalamus has been shown to excite the anterior pituitary, as evidenced by the occurrence of ovulation in rabbits (Harris, 1937; Markee, Sawyer, and Hollinshead, 1946).

Clinically there are many observations that can be explained only by an action of the nervous system modifying anterior pituitary activity. Hypogonadism may be due to hypothalamic lesions. Hypertrophied genitalia (pubertas praecox) are also found associated with hypothalamic lesions, especially those situated caudal to the tuber cinereum. Weinberger and Grant (1941) suggest that this precocity is due to destruction of a posterior hypothalamic mechanism with release of an anterior hypothalamic innervation of the anterior pituitary. The effect of worry in causing menstrual irregularities, or diminution of milk flow in nursing women, is probably mediated by a nervous

influence over the anterior pituitary. The occurrence of psychic trauma in the history of patients showing endocrine disturbances is well known (Lichtwitz, 1942), and in this respect it is perhaps significant that hypothalamic lesions have been found in cases of thyroid dysfunction (Möschl, 1938) and diabetes mellitus (Vonderahe, 1937).

Since there is no sound evidence that secretomotor nerves to the testis, ovary, thyroid, adrenal cortex, or anterior pituitary gland exist, the most likely explanation of the above and other examples of neural influences over the endocrine glands is that the hypothalamus regulates the activity of the adenohypophysis by vascular transmission of stimuli through the hypophysial portal vessels, as suggested by Harris (1944) and by Green and Harris (1947). The activity of the other glands of internal secretion would then be brought indirectly under neural control through the intermediation of the pituitary. The upper set of capillaries of the portal vessels are situated deeply in the median eminence, some penetrating to the ependymal lining of the third ventricle. In this region the capillary sinusoids are intimately related to a multitude of nerve fibres from the hypothalamus, and the possibility certainly exists that the hypothalamus could excite or inhibit the activity of the anterior pituitary by liberating some chemotransmitter into the portal vessels and so into the sinusoids of the anterior pituitary. At the present time the evidence regarding this hypothesis is indirect but substantial. Further information with respect to the state of the hypophysial portal vessels in cases of pituitary dysfunction in man would be of much value. It may be mentioned that these vessels are particularly obvious in human material.

The Posterior Pituitary and Labour

Many workers have found that simple hypophysectomy (leaving the upper end of the neural stalk and median eminence *in situ*) does not necessarily lead to dystocia, and for this reason it was believed that the oxytocic extract obtainable from the posterior pituitary gland was of pharmacological interest only. Fisher, Magoun, and Ranson (1938) and Dey, Fisher, and Ranson (1941) found, however, that a large proportion of cats and guinea-pigs suffering from experimental diabetes insipidus had a prolonged labour or delivered their young dead. Similar results have been found by Smith (1946), working on monkeys. Previous work was criticized by Fisher, Magoun, and Ranson (1938) on the grounds that most workers had failed (*a*) to control the complete removal of the neurohypophysis, including the median eminence, (*b*) to control the presence of some normally secreting anterior-lobe tissue, and (*c*) to record the details of labour such as the type and duration of the different stages. Several cases are on record of prolonged labour in women suffering from diabetes insipidus (see Marañón, 1947). However, the evidence is not entirely clear-cut, for both in animals (Dey, Fisher, and Ranson, 1941) and in man (Dandy, 1940) normal labour has been reported in spite of a concurrent state of diabetes.

Haterius and Ferguson (1938) and Ferguson (1941) have shown that stimulation of the pituitary stalk in anaesthetized post-partum rabbits and cats produced an increase in uterine activity even though all the structures in the neck except the internal carotid arteries, jugular veins, and a flap of skin had been crushed. Ferguson (1941) also described a reflex secretion of oxytocic substance from the infundibular process following distension of various parts of the reproductive canal in rabbits, and suggested that such reflexes play a part in the normal labour. Harris (1944, 1947a) has shown that stimulation of the supraoptico-hypophysial tract in unanaesthetized rabbits produces a marked increase in uterine activity. Stimulation was performed by inducing the stimuli through the intact skin into a previously implanted coil, an insulated lead being taken from the coil to the site stimulated. The spread of stimulus was not more than 0.5 mm. The uterine reactions were recorded from a chronic vaginal fistula, and in many cases the sensitivity of the uterus was standardized by ovariectomy and the implantation of a tablet of stilboestrol di-*n*-butyrate. In these experiments the response of the oestrous, or oestrogenized, uterus could be graded at will by varying the intensity of the stimulus, though the response to similar stimuli applied to the oestrogenized rabbits was found to be very constant from day to day. The oxytocic reaction to stimulation could be closely duplicated by intravenous administration of 200-500 mU. of posterior-lobe extracts, especially extracts relatively low in pressor activity. Stimulation or injection of extracts had little effect on the activity of the anoestrous or pseudo-pregnant uterus, or on the organ under the influence of progesterone. From experiments using this (remote control) method of stimulation has accumulated much evidence that the substance secreted from the rabbit's pituitary is richer in oxytocic, relative to pressor, activity than various standard whole posterior pituitary extracts. For example, the uterine response to the injection of whole pituitary extract consists of a stage of increased activity followed by a variable stage of inhibition. This latter effect is probably the result of the pressor fraction causing constriction of the uterine blood vessels and ischaemia of the uterine musculature. The inhibitory pause in the uterine response to stimulation of the supraoptico-hypophysial tract is short-lived, and is lacking in the response to injection of the purified oxytocic fraction. Thus it would seem the secretion elicited by stimulation of the neurohypophysis possesses (relative to oxytocic content) less pressor activity than whole extracts and more than purified oxytocic extracts.

It may be concluded, then, that evidence is accumulating for the physiological role of the posterior pituitary in labour. It might be suggested, from the results of animal experimentation, that in replacement therapy during labour the purified oxytocic fraction be used instead of whole posterior-lobe extracts. However, more direct evidence on the reactions of the human uterus *in situ* to such extracts is desirable.

It is of interest that stimulation of the neural stalk in rabbits also produces inhibition of a water diuresis, increase in urinary chloride, and an increase in intestinal peristalsis, though no change is obtained in the level of the blood sugar and only slight rises in blood pressure (Harris, 1947a, 1947d).

Conclusions and Summary

The relationship between the hypothalamus and the pituitary gland is reviewed.

There is much evidence that the hypothalamus controls the secretion of both the anterior and the posterior lobes of the pituitary gland. The mechanism whereby control of the anterior lobe is exerted is probably by means of a humoral relay through the hypophysial portal vessels. Nervous regulation of the anterior pituitary brings the testis, ovary, thyroid, and adrenal cortex indirectly under nervous control via the mediation of the pituitary eutrophic hormones. This offers an explanation of various endocrine disturbances (pubertas praecox and others) associated with psychic trauma or lesions at the base of the brain. The activity of the posterior pituitary is regulated largely by the supraoptico-hypophysial tract. Evidence is accumulating that this mechanism plays a physiological part in labour, and attention is drawn to the reflexes described by Ferguson. Results obtained by stimulating the pituitary stalk in animals suggests that the secretion of the posterior lobe contains less pressor activity than whole posterior pituitary extracts. It is suggested that replacement therapy for cases

of uterine atony associated with diabetes insipidus can best be performed by use of the purified oxytocic fraction.

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DISORDERS OF THE NERVOUS SYSTEM DUE TO MALNUTRITION*

BY

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Considerable and new interest has been aroused in nutritional disorders of the nervous system as a result of their high incidence among prisoners of war in the Near and Far East. These disorders have of course been recognized for a long time by those familiar with deficiency diseases occurring among more primitive peoples. My own observations began nearly forty years ago.

Three Important Points

If series of these cases showing symptoms of nervous disorder be observed, it becomes apparent that there may be a disturbance in each and every *sensory* function of the body without the *motor* system being involved. This is the first point of importance. Thus it is possible to distinguish syndromes correlated with the functions of vision, hearing, taste, and smell, with joint, muscle, positional, and vibration sense, with temperature sense, and with tactile sensibility. This group of syndromes, like all symptom-complexes, may be more or less complete or incomplete in any individual. The factors which determine their several incidences are not known; it is not known why some individuals develop symptoms and others under the same conditions manifest none.

The second point of importance is the fact that if the symptoms, more especially the early symptoms, in each syndrome be studied they will be found to be of the same order; they are homologous, though naturally they differ according to the sensory function under consideration. These symptoms consist of disorders of perception, with what might be called distortion. Though they may be of short duration pointing to a lesion which is reversible, there is a tendency towards complete failure of function.

*A short communication read at a discussion in the Neurological Section of the International Conference of Physicians.

In each syndrome—whether the disturbance be of the visual, auditory, or tactile function, for example—there may be noted considerable variations in rate of onset and rate of progress, in intensity, in intermission and remission, and in the final stage reached.

The patient who later develops amblyopia with a persisting central scotoma may complain of loss of vision for short periods lasting from a few minutes to half an hour; objects may come into focus and then disappear again; some part of an object may seem to be missing; print appears blurred as if seen through a curtain; there is difficulty in recognizing persons and objects; complaint is made of shimmering and spots before the eyes, of flickering of images, and of rings and haloes about lights, reminiscent of migraine.

The otoneurological manifestations are of similar character though often dismissed by observers with a reference to loss of acuity of hearing. There may, however, be loss of tonal differentiation: the patient can no longer understand wireless music; he may fail to understand the human voice against a background of other sounds.

Tinnitus and vertigo are common; dizziness may come on in attacks lasting a few minutes to several days and may or may not be accompanied by nausea, vomiting, tinnitus, and headache. Vestibular hyperexcitability may be demonstrated in a large proportion of cases, as noted by De Raadt, the only observer to investigate the otoneurological syndrome fully. He points out that, though this and other symptoms may be of peripheral origin in initial stages, they are essentially central symptoms.

Thirdly, consider the disturbances of tactile and pain sensibility: the patient may complain of all manner of paraesthesiae or dysaesthesiae—pins-and-needles, tingling, pricking, formication, aching, burning or shooting pains, a sensation of wetness—there may be hyperaesthesia to touch and pin-prick, followed by numbness, hypoaesthesia, or anaesthesia, characteristically patchy in distribution, incomplete, and changeable. This intermittency and variability is equally characteristic of the ataxia, hypotonia, incoordination, and Rombergism at the onset, though of course there are no accompanying subjective symptoms. To this group of syndromes must also be added mental apathy, mild depression, loss of memory, loss of emotional control, and mental deterioration.

The character of the symptoms in this group of syndromes seems to suggest a widespread disturbance of function in the cortex, both cerebral and cerebellar, and probably in subcortical nuclei. The disturbance at the onset is variable and intermittent, therefore the cause must be reversible, a fact which, it is again suggested, could be explained only by some disorder of metabolism, a disorder of the vascular system, or both.

Dietary Deficiency

That this group of syndromes is associated with malnutrition there can be no doubt. So-called toxic agents can be ruled out, though the possible action of an antivitamin must not be lost sight of. Epidemiological studies show that the prevailing dietary deficiency in all cases is one of protein and the B group vitamins, with a relative excess of carbohydrate.

Without going into details it is possible to exclude vitamins A and C as the factors in causation. Similarly thiamin and nicotinic acid may be disregarded, for though these syndromes may be present in the subjects of beriberi and pellagra they are not due to deficiency of either of these vitamins. There remain the other members of the vitamin B_2 complex to be considered. The association of these syndromes with signs of riboflavin deficiency is very

close and, it is suggested, significant; pantothenic acid and pyridoxin, closely correlated with riboflavin, might also be implicated, but for the purposes of my argument I am going to assume for the moment that a riboflavin deficiency is the cause of the condition under consideration.

The brain derives its energy solely by the metabolism of glucose. It is suggested that the initial biochemical lesion consists in a partial failure of glucose breakdown at the link between the anaerobic dehydrogenase system and the aerobic cytochrome/cytochrome oxidase system which is formed by an enzyme into which riboflavin enters as co-enzyme. In other words, there is produced a condition of anoxia or hypoxia. This of course is generalized, but only those nervous elements with a high metabolic rate, and therefore the more vulnerable, suffer as a result of this partial oxygen deprivation.

If this assumption be correct it becomes at once apparent why only the sensory side of the central nervous system is affected, for it has been shown that the oxygen consumption of the sensory nuclei is far greater than that of the motor nuclei.

The researches of Gasser (1937), Dunning and Wolff (1937), and Craigie (1939) have demonstrated, in animals, that the oxygen consumption of the grey matter of the central nervous system is very much greater than that of the white matter, that the blood supply—i.e., the number of capillaries present ("capillarity")—is proportional, but that the oxygen consumption of the grey matter is not due to the richness in cellular elements but to the neuropile (Gasser uses the word "neurophil") or mass of fine protoplasmic strands contributed by dendrites, terminal axon arborizations, and other synaptic structures.

Those areas with a high degree of capillarity and high metabolic rate include the cochlear and vestibular nuclei, Deiters's nucleus, the granular layer of the cerebellar cortex, the second layer of the occipital cortex, followed in descending order by parietal, temporal, pre-central, and insular cortices.

Conclusion

Briefly these are the arguments put forward in support of a thesis which suggests that the group of syndromes under consideration are due to failure in the metabolism of glucose in the neuropile of those areas of the central nervous system which have a high metabolic rate, in turn caused by hypoxia induced by hyporiboflavinosis and/or a deficiency of other closely associated members of the vitamin B_2 complex.

There is also some evidence that a disorder of the capillary bed (capillary dysergia) is caused by a deficiency of riboflavin coincident with the affection of the nervous tissue.

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Dunning, H. S., and Wolff, H. G. (1937). *J. comp. Neurol.*, **67**, 433.
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The Minister of Health states that the following agreement has been reached between representatives of the British Medical Association, of the Associations of Local Authorities, and of the London County Council: "That for the period from July 1, 1947, until the appointed day for the purposes of the National Health Service Act, 1946, or, if new scales have not then been agreed, until the date of operation of any new scales, whichever be the later, there should be substituted for the percentages mentioned in paragraph 1 of the Interim Revision of the Askwith Memorandum agreed to at the conference held at the Ministry of Health on March 26, 1946—viz., 30, 20, and 10 respectively—the percentages of 35, 30, and 25 respectively, this substitution to include the substitution of 25% for 10% in the last line of subparagraph 1 (*a*)."

The Minister understands that this modification has been accepted by all parties to the Askwith agreement, and it is being circulated to local authorities by the Minister at their request.

AN IMPROVED DIRECT COAGULASE TEST FOR THE RAPID DETECTION OF STAPHYLOCOCCUS AUREUS

BY

IWO LOMINSKI, M.D.

AND

ERIKA GROSSFELD

From the Department of Bacteriology, University and Western Infirmary, Glasgow

As a preliminary to penicillin therapy a method has been suggested for the rapid detection of *Staphylococcus aureus* (*pyogenes*) which consists in adding the material to be investigated (pus or fluid squeezed from a swab) direct to citrated or oxalated plasma (Lominski and Grossfeld, 1944). Coagulation of the plasma indicates the presence of the organism. Positive reactions develop at 37° C. within several hours (occasionally in 20 minutes), thus being available before the results of cultures; they may also be obtained where staphylococci are too scanty to be detected in smears of the material. The reliability of the test was controlled both by culture and by the coagulase test carried out with the isolated strain. However, in the course of extended routine observations doubt arose regarding the advisability of the use of citrated plasma for coagulase tests in general, since it was found that such plasma may be clotted under certain conditions by organisms other than staphylococci. The use of heparinated plasma, on the other hand, was found to exclude this fallacy. (A detailed account of the mechanism involved, which is entirely different from that of staphylococcal coagulase, will be published elsewhere by E. M. Harper and N. S. Conway.)

Accordingly, the original method has been modified as follows: to 1 volume of citrated plasma are added 3 volumes of saline, 1 volume of meat extract broth, and heparin in such amount that 1 ml. of the mixture contains 2 to 5 Toronto units. Heparin serves the purpose of assuring the specificity of the test, while the addition of broth provides better growth conditions for staphylococci. Excess of broth must be avoided, as it favours rapid liquefaction of the coagulum and thus makes the test difficult to read overnight.

The modified direct coagulase test here described has so far proved very sensitive and highly specific, and its diagnostic value equals that of the ordinary coagulase test carried out with pure strains of staphylococci. Thus, over the last three years the reliability of this modified test has been confirmed in several thousand cases controlled by culture and the ordinary coagulase reaction with the pure strain. Where *Staphylococcus aureus* was present the results were positive in almost 95% of cases; in no instance was a fallacious positive result obtained in the absence of the organism.

The presence of other organisms does not, as a rule, prevent a positive reaction, but early reading of the test is essential, since a coagulum which forms within several hours may liquefy later owing to the presence of proteolytic bacteria. It should be added that the final test with a pure strain of staphylococcus-like Gram-positive cocci ought also to be carried out in heparinated plasma.

We are indebted to the Rankin Medical Research Fund for a grant toward the expenses of the work.

Reference

Lominski, I., and Grossfeld, E. (1944). *British Medical Journal*, **2**, 854.

Medical Memoranda

An Unusual Case of Intestinal Obstruction

The following case is worth recording because of the unusual cause of the obstruction.

CASE HISTORY

A man aged 64 was admitted on the evening of Oct. 2, 1947, with colicky abdominal pains and vomiting of 24 hours' duration. On the morning of admission he had taken castor oil, with considerable aggravation of the pains, though these had become much easier by the time he was admitted. Bowels were opened normally on the day before admission. Urinary history was normal. Twelve days previously there had been attacks of colicky abdominal pain which had subsided spontaneously after 48 hours. There were no previous operations.

On admission his general condition was fair, with tongue moist but slightly furred. Heart and chest, clear. There was no distension of the abdomen or guarding, and no tumour was palpable. Rectal examination revealed soft faeces and a moderately enlarged prostate. An enema yielded a good result and he felt much relieved. There had been no vomiting since admission, and it was decided to leave the patient under observation for the night.

When I saw him the following morning he stated that he had spent a restless night owing to attacks of mild colicky pain, had passed no flatus, and had felt nauseated though he had not vomited. Examination revealed noticeable fetor and a dry coated tongue. The abdomen showed slight distension with shifting dullness in both flanks. No guarding or tumour was found. Auscultation revealed peristalsis to be present—not unduly increased, but louder and harsher than normal. Laparotomy was decided on.

Intravenous fluids were started, and under general anaesthesia the abdomen was opened through a right rectus-splitting incision. There was much clear free fluid in the peritoneum, and congested and dilated small gut presented. The caecum was found to be collapsed, and on further exploration a thick fibrous band was encountered running from the region of the transverse mesocolon to the posterior abdominal wall of the right iliac fossa. Kinked round this band was a huge Meckel's diverticulum the diameter of the dilated small gut and 3 in. (7.5 cm.) in length. Division of the band immediately relieved the obstruction, and it was found that this band had produced a well-marked constriction immediately distal to the diverticulum. Some of the contents of the dilated bowel were "milked" into the caecum and the abdomen was then closed.

The patient's general condition was so good that the intravenous therapy was stopped. He spent a fair night and there was a spontaneous bowel action early the following morning, but he collapsed later in the morning with circulatory failure. Intravenous fluids were restarted and 2 pints (1.14 litres) of plasma were given rapidly and then 1 pint (0.57 litre) more slowly. There was considerable improvement in the pulse and colour, and the air hunger was abolished. A blood pressure of below 60 was raised to a steady 84/64. This improvement was maintained throughout the day, but he collapsed again in the early hours of the following morning, Oct. 5, and died at 5.45 a.m. During the last 19 hours of life he had had over 12 pints (6.82 litres) of intravenous fluids, and at no time did the lungs show signs of oedema or congestion.

I wish to thank Mr. J. E. Piercey, medical superintendent, for advice and helpful criticism and for permission to publish.

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Severe Oedema of the Vulva in Labour

This case illustrates the conservative treatment of severe oedema of the vulva in labour, in contradistinction to treatment by caesarean section, as advocated by Bush (*British Medical Journal*, 1946, **2**, 988).

CASE REPORT

Mrs. G., a primigravida aged 25, reported on July 26, 1946, as a new case at the West Middlesex County Hospital's antenatal clinic. She gave no history of disease. Her last menstrual period began on April 23, and her expected date of delivery was Jan. 30, 1947. She felt well, and had no complaints. A general medical examination revealed nothing abnormal. Her blood pressure was 120/70, her ankles were not oedematous, and there was no albuminuria.

She attended the antenatal clinic every month, and nothing abnormal was noted until Nov. 25 (31 weeks), when she complained of some oedema of the ankles and vulva. On examination her general condition was good. There was some oedema of the ankles and fingers, and a slight degree of oedema of the vulva. The height of the fundus was 32 weeks; the presentation was by the vertex, position R.O.L.; the head was floating, and the foetal heart was heard. The blood pressure was 156/100, and the urine contained nothing abnormal.

She was admitted to the antenatal ward. Treatment consisted of rest in bed, with a low-salt diet. Fluids were not restricted. The blood pressure was taken four-hourly, and her fluid intake and output were recorded. Next day the oedema of the ankles and fingers was less, but the oedema of the vulva had increased. The blood pressure averaged 140/88, and the urine contained no albumin. Renal-function tests carried out at this time revealed good concentration of urea, with a satisfactory output. The blood urea was 32 mg. per 100 ml.

Conservative treatment was continued during December. The blood pressure remained in the region of 135/90 and the urine clear, except on Dec. 24, 25, and 26, when a faint trace of albumin was found. This was measured as 0.25 g. in an Esbach tube. During December the patient felt well and the oedema of hands and feet disappeared. Oedema of the vulva increased during the first ten days in hospital, and then started to decrease, the right side of the vulva decreasing more rapidly than the left. By Dec. 23 the improvement in the oedema of vulva ceased, leaving a slight residual amount.

On Jan. 7, 1947 (37 weeks), oedema of the vulva began to increase again. The patient still felt well. The fundus of the uterus was equivalent to 37 weeks; the presentation was by the vertex, position R.O.L.; the head was engaged. The blood pressure was 140/90, and the urine contained albumin—0.25 g. in an Esbach tube.

FIG. 1.—Showing oedema of the vulva four days before delivery.

On Jan. 13 (38 weeks) oedema of the vulva reached the stage seen in Fig. 1. The blood pressure was 140/90; the urine contained albumin—1.5 g. in an Esbach tube.

Owing to the steady increase in the severity of the pre-eclamptic toxaemia and the rapid return of oedema of the vulva, surgical induction of labour was decided upon. At 6.30 p.m. on Jan. 13, with the patient under a general anaesthetic, the membranes were ruptured after they had been swept from the lower uterine segment. Labour began next day and progressed very slowly until the 17th, when, at 9.30 a.m., meconium-stained liquor was being passed from the vagina. The uterine contractions were infrequent and the foetal heart was irregular during contractions. An examination per vaginam revealed that the cervix was fully dilated and the head low in the pelvic cavity. A forceps delivery was decided upon because of foetal distress. The patient was anaesthetized.

By separating the labia majora with one hand it was easy to insert the examining fingers into the vagina. The head was found to be lying in the R.O.P. position, and attempts at manual rotation only turned the head to the R.O.L. position. Kjelland's forceps were applied and the head rotated. Traction was then made through the forceps, and as the head came on to the perineum the oedematous labia fell apart, revealing a normal perineal body. A lateral episiotomy was performed and the head delivered. The delivery of the child was then completed. The episiotomy was repaired with a continuous catgut suture into the vaginal epithelium and six deep silkworm-gut sutures. The third stage was normal. The infant weighed 7 lb. 6 oz. (3.35 kg.) at birth. It was limp after delivery, but soon recovered.

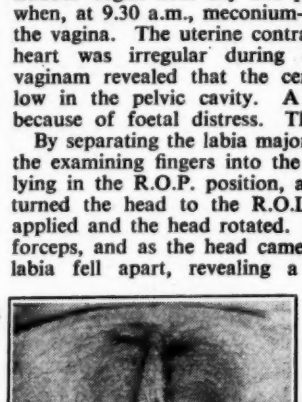

FIG. 2.—Showing the vulva 14 days after delivery.

During the puerperium oedema of the vulva gradually subsided, and by Jan. 30 it had disappeared, and the episiotomy incision had healed, as seen in Fig. 2. During this period the urine contained no albumin and the blood pressure fell to an average of 130/80. The patient was discharged from hospital on Feb. 9, the baby being fully breast-fed and weighing 6 lb. 12 oz. (3.06 kg.).

The patient has been seen twice at the postnatal clinic, and was very well. The blood pressure at the last visit was 160/80. The infant was satisfactory.

I wish to thank Mr. D. M. Stern for permission to publish this case.

S. L. TOWNSEND, F.R.C.S.Ed., M.R.C.O.G.

Reviews

CURARE

Curare. Its History, Nature, and Clinical Use. By A. R. McIntyre, Ph.D., M.D. (Pp. 240; illustrated. 27s. 6d.) Chicago: The University of Chicago Press. London: Cambridge University Press. 1947.

The clinical applications of curare have aroused widespread interest in recent years, and a monograph on this drug will therefore be welcomed. The author of this book, Prof. A. R. McIntyre, is Professor of Physiology and Pharmacology in the University of Nebraska and a recognized authority on curare, having been largely responsible for the introduction of standardized extracts into clinical practice. He begins the book with a fascinating account of the adventures in South America from the sixteenth century onwards of the first European explorers to see the effects of arrows poisoned with curare. He then discusses the botanical characters of the plants used to make the poison and the chemical properties of the active principles, of which tubocurarine is the best known. This alkaloid is easily made available in the pure state, and its exact chemical structure was established by the careful work of Dr. Harold King in 1935. Some samples of curare, however, contain more active substances, such as toxiferin, and may contain various other poisons with quite different actions. Confusion has arisen in the past because curare has been regarded as a single drug, and those who have used it have not realized that all specimens are not alike and have not taken care to state the exact nature of their material.

Prof. McIntyre describes the early pharmacological studies of curare which culminated in the beautifully simple experiments of Claude Bernard in 1857, which proved that curare inhibits the transmission of impulses from motor nerves to voluntary muscle. This is undoubtedly the chief action of the drug, and the most important fact known about it was established in 1930 by Dale, Feldberg, and Vogt, who showed that when a muscle is paralysed by curare the nerve continues to liberate acetylcholine, which is prevented from having its normal effect on the muscle. Prof. McIntyre reviews much other work devoted to the problem of how this happens but does not succeed in presenting a clear picture of the results. He emphasizes that curare has actions on other parts of the body, and particularly on the central nervous system, and he ends the book with a history of the clinical uses of the drug. Its use in medicine was first suggested in 1811, but actual trials were not made until 1858. During the second half of the nineteenth century curare was administered in the treatment of tetanus, epilepsy, chorea, and hydrophobia, but progress was impeded by the variability of samples. In modern times interest was stimulated by the enthusiasm of West in 1931–5. In 1938 A. E. Bennett, at the suggestion of Prof. McIntyre, used curare in conjunction with shock therapy, and in 1942 Griffith and Johnson used it to secure relaxation in anaesthesia. Prof. McIntyre reviews all this work in the monograph before us and includes a bibliography of over 1,300 items. It will be a standard work.

J. H. GADDUM.

SURGICAL TREATMENT

Textbook of Surgical Treatment, Including Operative Surgery. Third edition. Edited by C. F. W. Illingworth, M.D., Ch.M., F.R.C.S.Ed. Compiled by 21 contributors. (Pp. 644; illustrated. 32s. 6d.) Edinburgh: E. and S. Livingstone. 1947.

It might be interesting to listen to a round-table discussion by students on the relative merits of books by one and by several authors. There is little doubt that there would be considerable difference of opinion, for each case has its special merits and defects. In any case, this textbook by 21 contributors has already found favour, for this is the third edition to appear within four years. It undoubtedly provides what is difficult to obtain elsewhere—a conspectus of the main outlines of surgical treatment.

Several new sections have been added to this edition. There is a useful chapter on the indications for and the methods of using penicillin. Its author is wise in stating that "the findings to date . . . cannot be taken as final," for even since he wrote our knowledge has advanced in several particulars. Facio-maxillary injuries are competently discussed, but we think that a few words on the methods of grafting an ununited fracture of the mandible might with advantage be inserted. In a book where such a wide field of knowledge is covered there are sure to be some gaps. The index is not quite full enough. We could not find there any mention of acute dilatation of the stomach, the thymus, actinomycosis, or Meckel's diverticulum. The first two do not appear to be mentioned in the text. Actinomycosis is considered in the chapter on penicillin but is not mentioned in the section on the face and neck. In the section on sigmoid volvulus the surgeon is warned not to bring the distended colon outside the abdomen, "as without the support of the abdominal wall it may rupture"; the alternative method of making a large incision and quickly bringing the whole coil outside the abdomen might be mentioned, for it allows the volvulus to be untwisted without any need for puncture. Since this book is intended for senior students we think it would be helpful if after each section there were added a short list of references to the most authoritative writings on that subject.

V. ZACHARY COPE.

MEDICINE FOR PATIENTS

The Art is Long. By William Edwards, M.D. With foreword by the Rt. Hon. Lord Horder. (Pp. 160. 10s. 6d.) London: Andrew Melrose, Ltd. 1947.

The Doctor's Job. By Carl Binger, M.D. (Pp. 244. 12s. 6d.) London: George Allen and Unwin, Ltd.

The author of the first of these books sets out to describe for the layman the work of every type of doctor. The medical student, the hospital resident, the family doctor in varied practice, the public health officers, the Service doctors, the specialists, and many others will find that Dr. Edwards has adequately described their work. He has thereby done a useful public relations job for the medical profession. There is little here that will be new to medical readers, but many a patient, bemused by the complexity of modern medicine, will find the answer to his questions. The family doctor, when he has read these lively essays in portraiture, would find a useful place for this book on his waiting-room table.

While both these books are ostensibly written for the layman, Dr. Edwards's book exactly fits its purpose; Dr. Carl Binger, excellent though his book is, seeks two audiences and therefore fails to find either. His chapters on fees, on the choice of a doctor, and on the achievements of medicine are sound exposition for intelligent patients, but there are other chapters whose appeal should be directly to doctors and where, with the layman out of the room, the discussion could have proceeded with sober and scientific caution. For Dr. Binger writes like a man of judgment and he brings to his especial interest, which is the application of the Freudian code to the aetiological and therapeutic problems of internal medicine, unusual qualities. This book of his suggests that he could write an important book which would help to answer the urgent question, Granted that there are psychosomatic diseases, how much of each of them is related to a psychogenic factor and how much to a constitutional pattern? And what results may be expected from the application of a psycho-analytical technique to such diseases as duodenal ulcer, ulcerative colitis, and the allergic disorders?

Dr. Edwards describes the work of only sixteen specialists, but Dr. Binger tells us that the American Medical Association recognizes twenty-six specialties—and obviously the quiver is not yet full. In fact, Dr. Binger's first-rate book might well be interpreted as a demand for the recognition of one more specialty—psychosomatic medicine—in spite of his expressed denial of such an intention. Those who have followed the American literature on psychosomatic medicine written by himself and by Cobb, Alexander, French, Weiss, Wolff, Dunbar, and others are not likely to agree with Binger that it is possible for one man to practise both internal medicine and psychotherapy. The investigation of psychosomatic problems appears to lead directly towards the higher flights of psychiatry—to the uncovering of deeply unconscious mechanisms—as indeed might be expected when one considers that tensions which are

mediated along autonomic pathways to produce organic disease must result from profound affective inhibition associated with as yet unrecognized constitutional factors. This is surely work for the physician wholly devoted to such psychotherapeutic problems—a psychotherapist who should be neither alienist nor internist.

Carl Binger concludes with an interesting discussion on the prospects of socialized medicine in the U.S.A. He states that 80% of American families—i.e., with incomes of 3,000 dollars or under—cannot now afford to meet the full cost of medical care. Such facts impel him to the conclusion that some form of socialized medicine, such as contributory health schemes organized by individual States, is inevitable. He also writes: "The public is hardly yet aware that the general practitioner's day is passing and that he is being replaced not by the high-priced specialist but by the internist, who should be the primary counsellor in all illness." Some of us in Britain hope that the general practitioner will, given reasonable facilities, become the general physician (the internist) of the future.

D. V. HUBBLE.

UROLOGY IN WOMEN

L'Urologia nella Donna. By Luigi Caporale. Second edition. (Pp. 366. No price given.) Torino: Edizioni Minerva Medica S.A. (Via Martiri della Liberta, 15).

This is the second edition of a book on urology in women. The author gives a full account of the anatomy and the diseases and disorders of the female urinary tract from the kidney to the urethra, including an account also of the methods by which the functions of the various organs can be investigated. He stresses, as one would expect a professor of urology to do, the urological rather than the gynaecological aspects. In fact his discussion of the obstetrical and gynaecological disorders which have urinary complications is rather meagre. The description of the kidney in toxaemia of pregnancy which he describes as nephrosis of pregnancy, is far from up to date, and he does not mention the vascular lesions that are now regarded as of primary importance in the disease. He describes elaborately the technique of nephropexy, an operation that is at any rate temporarily out of favour in Britain. The section on pyelitis in pregnancy is adequate, though he seems to stress unduly treatment with diuretics and vaccines instead of the more modern chemotherapeutic methods. His account of the latter is by no means full enough, since he hardly considers the bacteriological aspect and omits to mention the choice and dosage of the various agents.

The best section is that on the bladder, where he discusses conditions such as cystitis and the tumours of the bladder. He describes various methods of operative treatment for urinary incontinence in women, but gives no account of the new fascial sling operations such as those devised by Aldridge and by Millin, which are now tending to replace muscle grafting and the older methods. The book is well produced and the illustrations are good. With the exception of omitting to mention certain very recent advances already referred to, the author presents a clear, well-written, and full account of the subject.

JOSEPHINE BARNES.

We again welcome that dermatological "best-seller" *Common Skin Diseases*, by A. C. Roxburgh (eighth edition, published by H. K. Lewis at 21s.). Eight editions in sixteen years—few medical books can show such a record. Where students and doctors have given so decisive a verdict there is no need for additional panegyric. In the present edition the author maintains all the characteristics of its predecessors, but with a few more pages, a few more illustrations, and a slight increase in price, which remains moderate by modern standards. Last year it was translated into French, and we wish the best of luck to that enterprise.

The fourth edition of Dr. Thorpe's well-known *Biochemistry for Medical Students* (18s., J. and A. Churchill) is of the same high quality as the previous edition. Although he has added a new chapter, "The Use of Isotopes in Biochemical Investigations," and has rewritten many of the sections, the size of the book has been increased by only 20 pages. This testifies to the soundness of the general plan of the work as well as to the author's determination to keep the text within reasonable limits—an achievement that medical students, for whom the book is primarily designed, will appreciate.

BOOKS RECEIVED

[Review is not precluded by notice here of books recently received]

The Nursing of Tuberculosis. By O. V. Buxton, S.R.N., and P. M. Maculloch Mackay, S.R.M.N. (Pp. 124. 7s. 6d.) Bristol: John Wright. 1947.

A manual intended for nurses and student nurses.

Penicillin in Syphilis. By J. E. Moore, M.D. (Pp. 319. 27s. 6d.) Oxford: Blackwell Scientific Publications. 1947.

After discussing the pharmacology of penicillin and some experimental investigations, the author describes its use in the treatment of syphilis.

Psychiatric Examination of the School Child. By Muriel Barton Hall, M.D. (Pp. 398. 15s.) London: Edward Arnold. 1947.

A general account of mental disorder in children aged 5 to 15, especially their classification and investigation.

Hamlet. By W. Shakespeare. (Pp 179. 8s. 6d.) London: Vision Press. 1947.

Dr. Ernest Jones contributes a psycho-analytical study as introduction to the play.

1947 Year Book of General Surgery. Edited by Evarts A. Graham, A.B., M.D. (Pp. 734. 21s.) Chicago: The Year Book Publishers. 1947.

Abstracts of recent papers on surgery.

Films—their Use and Misuse. Part I. By N. H. Rosenthal, B.A., B.Sc. (Pp. 36. 3s. 6d.) Melbourne: Robertson and Mullens. 1945.

A short account of the use of films in education.

The Teacher's Manual. Part II. By N. H. Rosenthal, B.A., B.Sc. (Pp. 67. 6s.) Melbourne: Robertson and Mullens. 1947.

An aid to teachers using instructional films.

Primer of Cardiology. By George E. Burch, M.D., F.A.C.P., and Paul Reaser, M.D. (Pp. 272. 22s. 6d.) London: Henry Kimpton. 1947.

An introduction to cardiology intended chiefly for medical students.

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Therapeutic Uses of Infra-Red Rays. By W. Annandale Troup, *M.C.*, M.D., Ch.B. 4th ed. (Pp. 149. 15s.) London: The Actinic Press. 1947.

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Color Atlas of Hematology. By Roy R. Kracke, M.D. (Pp. 204. 30s.) London: J. B. Lippincott. 1947.

Coloured plates illustrating blood disorders, with explanatory notes.

Calcific Disease of the Aortic Valve. By Howard T. Karsner, M.D., and Simon Koletsky, M.D. (Pp. 111. 30s.) London: J. B. Lippincott. 1947.

A monograph on calcification of the aortic valve.

Practical Histology for Medical Students. By D. T. Harris, M.D., D.Sc., F.Inst.P. 4th ed. (Pp. 138. 12s. 6d.) London: H. K. Lewis. 1947.

Summarized description of laboratory techniques.

Progress in Clinical Medicine. Edited by Raymond Daley, M.A., M.D., M.R.C.P., and Henry G. Miller, M.D., M.R.C.P., D.P.M. (Pp. 356. 21s.) London: J. and A. Churchill. 1948.

Articles by various authorities on recent clinical medicine.

Materia Medica. By William Hale-White. Revised by A. H. Douthwaite, M.D., F.R.C.P. 27th ed. (Pp. 549. 15s.) London: J. and A. Churchill. 1947.

A textbook for the student and practitioner, with emphasis on clinical applications of pharmacology.

A Handbook of Hygiene and Health Education. By Cyril G. Eastwood, M.D., Ch.B., B.Sc., D.P.H. 2nd ed. (Pp. 368. 7s. 6d.) London: Edward Arnold. 1947.

An introduction to the subject for students.

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38,534 DOCTORS DISAPPROVE

By a 9 to 1 majority in an 84% poll the medical profession has shown Mr. Bevan how completely he has misjudged the thoughts and feelings of the medical men and women of this country, and how ill-timed, inept, and untrue were his vicious remarks about raucous-voiced and politically poisoned people. His attempt to find a narrow target for his vituperation has failed completely. By their votes British doctors have shown what they think of his recent observations and the National Health Service Act in its present form. The medical profession and some of its leading personalities have during the last few weeks been subjected by certain newspapers to misrepresentation and personal abuse: 90% of all those voting have made the only fitting response to this. This is a truly remarkable result, and a confirmation, incidentally, that in these columns we have voiced what are the ideas and feelings of the great majority of doctors in this country. The policy and actions of the British Medical Association in relation to the present controversy have now been fully vindicated.

In the first few days of the plebiscite Mr. Bevan accused the B.M.A. of intimidation by means of the voting paper. The B.M.A. immediately invited a senior officer of the Minister to inspect the counting of the votes and the arrangements made for it, and expressed the hope that the Minister himself might come if he so wished. He had made the accusation, and he was given the opportunity of substantiating it. One of his officers replied that the Minister "cannot see his way to accept your proposal that he should associate himself or his officers with the Association's plebiscite."

The Council of the B.M.A. met on Wednesday to receive the results of the plebiscite and to discuss future action. The Representative Body at its meeting on March 17 will decide what this action is to be. A heavy responsibility now lies upon the British Medical Association—a responsibility not only to the medical profession but to the community generally, which has been given the most exaggerated idea of the medical benefits it has been led to expect when the National Health Service Act comes into operation on July 5. If it is made possible for the medical profession generally to join in that Service doctors will become heavily overworked, and there will be a dilution of the quality of treatment because of the excessive demands on a doctor's time that will inevitably be made by people who have been told that they will be free at any time to call upon a doctor's services of whatever nature. On July 5 there will be no increase in the number of doctors, nurses, or hospital beds, and there will be no health centres. The man or woman who now hesitates to call in a doctor for a trivial complaint will no longer hesitate to call in a medical man or woman employed by the State to give services free of charge. If it proves to be possible to start this Service on July 5 we foresee a state of affairs that will sadly disillusion a public that has been so misled by the Minister and his publicists about the medical benefits it will receive.

The results of the plebiscite are analysed at page 352 of this issue. Of the 51,042 medical men in Britain to whom voting papers were sent, 43,013 have returned valid papers—an 84% poll. The strictest supervision of these papers was maintained by the auditors, Messrs. Price, Waterhouse and Co., and 593 of the voting papers had to be declared invalid. Of the 43,013 voting, 38,534—or 90%—expressed disapproval of the Act in its present form. Of the general practitioners 17,626 expressed disapproval, and 17,037 voted against accepting service. The necessary majority and the necessary numbers of general practitioners more than fulfil the stated requirements for the B.M.A.'s decision to oppose the Act in its present form.

Of those directly concerned in service under the Act—consultants and specialists and general practitioners—who answered Question B, 22,106 have said they will not take service under the Act in its present form, as against 3,471 who have said they will take service. If nothing happens to change the views of these men between now and July 5 Mr. Bevan will have at his disposal 3,560 general practitioners (giving him the benefit of the non-voting G.P.s) and 971 consultants and specialists to operate the National Health Service Act designed for a population of 47,000,000. These figures and facts deserve the serious consideration of the Minister of Health, the Government, and Parliament. In particular they deserve the serious consideration of the general public, who are being misled by Mr. Bevan's promises and who have failed to understand what the position of the medical profession is.

The way different sections of the profession have voted is of considerable interest, and Mr. Bevan will, perhaps, share our surprise at some of the results. He might, of course, have expected that the small clique of "political conspirators" in the B.M.A. Council would influence the general practitioners, and perhaps even the consultants. But he can hardly have expected that the majority of those already in whole-time employment, and especially those in whole-time Government service, would disapprove of the Act in its present form. Yet that is what they have done. In 1943 the Society of Medical Officers of Health issued a report advocating a State Medical Service. But out of the 2,392 men and women working whole-time in the Public Health Service, 1,928 disapprove of the Act in its present form, and only 316 approve of it. *Of the 762 medical men and women working whole-time in Government service, 634 disapprove of the Act, and only 127 express their approval.* This result deserves to be italicized. Of the 548 whole-time teachers in Great Britain, 424 disapprove, and only 110 approve. Of the 530 whole-time research workers, 220 disapprove, and 104 approve. These are, indeed, instructive figures. One may assume that those in whole-time employment are not particularly interested in the question of buying and selling practices, or in the basic salary or in the tapering capitation fee, or, possibly, even in negative direction. Some of them, no doubt, in their disapproval are expressing their sense of solidarity with the

rest of the medical profession; some of them, too, feel affronted by the unmannerly and unfair treatment meted out by Mr. Bevan to practising doctors. Whatever may be the constitutional niceties of the right of appeal to the Courts against dismissal in the National Health Service, many, we believe, are gravely disquieted by the fact that in a State Medical Service available to the whole of the community a man's life and career may be ruined by the decision of a tribunal of three men, of whom only one has a legal training. The General Medical Council is the statutory body for dealing with cases of professional misconduct. In the future the Ministry of Health will be able to get rid of what it will regard as an unsatisfactory servant, and that servant will then have no alternative but to emigrate or try to gain a livelihood in another occupation for which he has not been trained. This power of the State over an individual highly and lengthily trained to do one kind of work is indeed alarming in its enormity. The more highly skilled a man is the less easily is he adaptable to alternative forms of work. That is the penalty of specialization. But in England to-day we find men of all political parties ready to give the State this unbelievable control over individual freedom. Mr. Bevan should take note that many medical men are already emigrating, or seeking to emigrate, from this country in order to escape the new servitude. There are probably other reasons why medical men in whole-time Government and local authority service disapprove of the Act in its present form. Behind this opposition we see apprehension at the increasing regimentation of all sections of the community, and a reaction against the dislike and envy of the educated classes shown by the rank-and-file of the present Labour Government, eager to disenfranchise the university voter. As Lecky observed over fifty years ago: "It is curious how often in modern England extreme enthusiasm for education is combined with an utter disregard for the opinions of the more educated classes."

Mr. Bevan's cries about a "political conspiracy" are falsified not only by the above results but by at least two of our correspondents who, while openly declaring themselves to be Socialists, state their opposition to the Act. Mr. Bevan has liked to claim that the young men are on his side. It has not been possible to break down the present plebiscite figures, but we know into what age groups the various sections of the profession fall on the basis of the analysis of the last plebiscite, the final figures of which were published in the *Journal* of Jan. 11, 1947. We may examine the votes of those working whole-time in voluntary hospitals. The great majority of these are working temporarily whole-time—namely, house-physicians, house-surgeons, resident medical and surgical officers, registrars, etc. The older men working whole-time would be the professors of medicine and surgery, professors of pathology, professors of bacteriology, and so forth. In 1947 3,736 whole-time voluntary hospital workers voted. Of these, 2,826 were qualified 7 years or less; 685 were qualified for 8 to 14 years; and only 80 had been qualified for over 15 years. It is safe to assume that the age distribution of whole-time workers in voluntary hospitals is unchanged. In fact, there is probably a greater proportion of the young men than last year. In this plebiscite 3,425 whole-time voluntary hospital workers disapprove of the Act, and only 467 give their approval. With minor variations the same proportion signified their intention not to take part in the Service in its present form. This is the response of the young men with whom the future of medicine lies, many of them wanting to go into general or consultant practice in the future, and all of them the least likely to be affected by B.M.A. "propaganda."

The plebiscite shows that the medical profession has firmly resisted all attempts made to play off one section against the other. By its vote it has shown that we are, indeed, one profession, in spite of the widely varying nature of the type of work and of the method of employment characteristic of various professional groups. This expression of solidarity is a real and valuable thing, and a confirming of faith in our common professional heritage. It is now up to the medical profession to make this unity still firmer and to use it in the coming months with the highest sense of responsibility. Parliament and the medical profession are pledged to provide a comprehensive medical service for the country. We may have grave doubts about the wisdom or possibility of putting a gigantic scheme of reform into operation in July of this year, but the expressed opposition of the Negotiating Committee is to certain features of the Act and certain proposals of the Minister. Mr. Bevan should now know that this opposition is not just the agitation of a political caucus or what *The Times* unkindly described as "the views of a score of elderly doctors." Parliament and public opinion will now realize that even if Mr. Bevan succeeds by financial pressure in coercing doctors into the Service on July 5 he will have in his service 38,534 unwilling and dissatisfied workers.

SAFEGUARDS FOR THE GENERAL PRACTITIONER

A sentence in the first leading article in the *Journal* of Feb. 7 seems to have given rise to some misunderstanding on the question of buying and selling practices. Having disposed of some of the stupid criticisms levelled against this custom, we observed that "if the financial burden of buying a practice is too heavy for the young man to bear in these days then there is a case for reasoned discussion on this point." To deny this in these days of economic stress would not appear to be reasonable. The fundamental case for the preservation of ownership of goodwill is to-day the preservation of the professional freedom of the general practitioner in a State medical service. If the medical profession enter such a State service then it is essential to see that within it the general practitioner retains professional freedom and what individual freedom may be possible in the uncomfortable new England taking shape under our eyes.

The medical profession has this week decided by an overwhelming vote against service under the Act in its present form. On the items of disagreement it would seem fair to state that for the general practitioner the principal objection is to a universal basic salary applied to all practitioners,

young, middle-aged, and old. We have the evidence of Government spokesmen that the idea of salary is related to control of certification, and, as the Labour Party is still committed by its published policy to a whole-time salaried service, the fears that the basic salary is a pointer in this direction are clearly well founded.

What real safeguards can be introduced? The assurance of any Minister of Health is valueless because it is not binding on his successor. We stated in the *Journal* of Feb. 7 that "at the moment it is difficult to see how the general practitioner can maintain his professional freedom without ownership." There are, of course, other considerable advantages to the purchaser of goodwill. These were discussed in a leading article in the *Journal* of Jan. 24. But even though all political parties have accepted the Government proposal to abolish ownership of goodwill in public practices the medical profession has the right to persist in its claim to continue the custom to which they have been used in the medical service under the National Health Insurance Acts. We do not accept Mr. Bevan's contention that the buying of goodwill is "an evil thing." His Ministry is a Ministry of Health—not a Ministry of Morals.

The essence of ownership is freedom and independence. In the *Journal* of Feb. 7 we suggested a possible alternative for safeguarding this freedom. There can be no question of change of policy, for this is decided by the Representative Body. We were concerned solely with possible methods of safeguarding professional freedom—which is the principle behind ownership. The Negotiating Committee, in its document laid before the Minister, suggested that the method of remuneration should be in the Act, thus: "It is the Committee's view that, except where special circumstances justify it, the remuneration of general practitioners should be by capitation payment in proportion to the number of persons on a doctor's list and that this principle, which it regards as fundamental, should be embodied in the Act." Summarizing this in the leading article of Feb. 7, we suggested that if this were done it "*might* offer an alternative safeguard" (our italics). It would certainly make it impossible for any Minister to introduce overnight a whole-time salaried service. An amendment to the present Act as suggested by the Negotiating Committee would make statutorily secure the Minister's assurance. If general practitioners were thus safeguarded against the arbitrary introduction of a whole-time salaried service it would be of value, as we indicated; but it is to be doubted whether practitioners would regard this as affording as strong a safeguard as personal ownership of goodwill.

THE FUTURE OF THE KING'S FUND

Like many other organizations connected with hospitals, King Edward's Hospital Fund for London is closing a chapter in its history and opening a new one. A recent meeting of the General Council, presided over by the Duke of Gloucester, was probably the last at which the annual distribution of grants will be made on traditional lines. A few months hence the financial responsibility for hospitals will be transferred to the State, and the activities of the Fund, so far as they have been directed to the maintenance of hospitals, will take a different pattern. "Henceforward," said the Duke of Gloucester, "the Fund will be able to help the hospitals in ways which lie outside the scope of routine expenditure. It is a great opportunity and a great responsibility."

For fifty years the Fund has maintained its ordinary distribution; it has assisted in the building of new hospitals, and has sustained several of the great teaching hospitals through periods of crisis. When the National Health Service Bill was considered in Standing Committee Mr. Bevan was questioned about the future of the Fund. He strongly denied any intention to seize the Fund and disburse its income, and when he was further asked whether each hospital receiving a grant from the Fund would be able to use it as a kind of pocket-money over and above the State provision, he said he would be loth to believe that those responsible for the Fund were going to use it in that way, and added, "There will be many other purposes for which the Fund can be used." At the meeting of the General Council Sir Edward Peacock, the treasurer, stated that it is already evident that the help which the Fund can give to the hospitals when they have passed under public control may be even more important than hitherto, that the Fund is feeling its way cautiously in this new territory, and that already several services were in being.

The Fund, of course, has never been a mere distributor of largesse. It has led the way in a number of important hospital matters such as the financing of training schemes for administrators, hospital caterers, and domestic supervisors, the assistance of group preliminary training schemes for nurses, and the augmentation of the efforts of individual hospitals in nursing recruitment. Various plans are now under consideration for helping Regional Boards over the transitional period by means of the Emergency Bed Service which the Fund sponsored. All these, as Sir Wilson Jameson said on the same occasion, are pointers to future possibilities. It is certainly a fortunate circumstance that in this time of change an organization independent of the Government and outside all the new administrative machinery which is being fashioned, a body, moreover, possessed of ample resources—the Fund's ordinary income to almost half its extent is derived from investments—and with an unrivalled experience of voluntary hospitals and their difficulties, should be available and ready with its help.

The grants distributed by the Fund to about 150 hospitals in the London regions in 1947 amount to £300,000, ranging from sums of over £10,000 to four large hospitals down to £25 or £50 to cottage hospitals or quite small institutions. About a quarter of a million of the distribution is for maintenance; some £26,000 is for schemes of capital expenditure, such as the provision or completion of a nurses' home or the purchase of *x*-ray apparatus or hospital furniture, and a further £20,000 is allocated to convalescent homes not attached to hospitals. A year ago a Convalescent Homes Committee was appointed under the chairmanship of Sir Henry Tidy to look into the position with regard to these homes, which it found to be very indefinite. No list of such homes existed, and information

was difficult to obtain. The first task of the committee was to prepare a directory, and details of 150 homes have been obtained. But much more has been done than a mere compilation of particulars. Arrangements were made for the visiting of all homes serving the London regions, most of them on the coast from Bournemouth to Felixstowe, and information was obtained as to their needs. Not only has financial help been given, but much useful advice also by experts on dietetics and on more general questions working under the Fund's auspices.

It was reported to the General Council that the income of the Fund is being well maintained. Subscriptions and donations are slightly down on the year, but the amount received from legacies has risen considerably; and as for the individual hospitals themselves, the income has been remarkably steady, notwithstanding the shadow of impending change. Evidently it takes more than a great State merger operation to repress the sentiment awakened by hospitals among the British people and the desire to express that sentiment by gifts. The new Act leaves the way open for the public to continue to subscribe to the hospitals, and the Fund appears to be confident that the flow of voluntary gifts will continue. It is understood that the method of applying a gift for the benefit of a hospital will be in the discretion of its management committee, but presumably it will not be included in its normal maintenance budget. Dealing with this point in his address to the General Council, the Duke of Gloucester said: "The value of this additional money will lie in the power it will give hospital committees to do many things that they would not otherwise be able to do within the limits of a strict budget; but much more than that, it will help to give the committees a sense of real responsibility."

NUTRITIVE VALUE OF MEAT EXTRACT

Meat extracts were first prepared by Liebig, more famous as the father of organic chemistry, about the middle of last century. When they were produced commercially their attractive taste and their property of stimulating appetite and digestion soon earned them a high place in public favour. These virtues have never been seriously questioned, and in recent years controlled experiments have been made to measure the ability of the extracts to increase gastric secretion and the tone of the gastric muscle.[1] The claim that meat extracts improve stamina and muscular performance was less generally accepted, except by military hygienists. Early dietitians, indeed, found that they were poor sources of proteins, carbohydrates, and fats, the only types of nutrients then recognized, and therefore proclaimed that they had little value as food. The discovery of vitamins at first did nothing to improve their reputation, since vitamins A, B_1, C, and D—the first to be recognized—are absent, or present only in negligible amounts.

According to Rees and Salway[2] modern research on the vitamin B complex has placed meat extracts in a more favourable position. Because all the vitamins in this complex are water soluble, and because one part of extract represents 25–30 parts of meat, it would be expected that the vitamins which are found in meat would be present in much greater concentration in the extract. This is not the case, however, in so far as vitamin B_1 is concerned, since the small amounts which are present in the meat disappear during the process of extraction. Nicotinic acid, on the other hand, is highly concentrated, beef extracts containing 1.0–1.2 mg. per g. as against 0.024–0.102 mg. in the original meat. Riboflavin is concentrated in about the same ratio. These values imply that 10 g. of meat extract daily, or about 2–3 breakfast-cups of beverage, would meet the needs of an adult for nicotinic acid. As much as 30–40 g. of extract, however, would be necessary to provide the required quantity of riboflavin.

It may be asked whether these considerable amounts of vitamins are wholly or in part responsible for the value of the extracts as stimulants. There is little doubt that their ability to increase appetite is due to their high content of "meat bases," such as carnosine, anserine, adenosine, creatine, etc. Frankau[3] has described experiments in which a diet rich in nicotinic acid was found to improve muscular performance and stamina and increase efficiency when severe tests involving both physical effort and co-ordination were undertaken. Such an important finding obviously requires confirmation and correct interpretation before receiving general acceptance, but it is at least possible that the views of the early military hygienists will at last be supported by some scientific justification.

1 Fisher R. S., and Apperly, F. L., *J. Lab. clin. Med.*, 1941, **26**, 823.
2 *Chem. Ind.*, 1947, **22**, 302.
3 Frankau, I. M., *British Medical Journal*, 1943, **2**, 601.

AGENE-TREATED FLOUR

The discovery by Sir Edward Mellanby[1] that flour "improved" by the agene process, involving treatment with nitrogen trichloride, produced canine hysteria when given as food to dogs had important biochemical implications apart from its possible significance in relation to public health. The obvious questions were, first, Is the effect due to a toxic substance or to the impairment or inhibition of a vitamin? and, secondly, If a toxic substance is responsible, what is its nature? The first question was answered independently by Sir Edward Mellanby[2] and by Dr. T. Moran,[3] the most clear-cut evidence being provided by the latter's demonstration that flour treated with greater concentrations of nitrogen trichloride than in commercial practice can produce hysteria in dogs within twenty-four hours. This is clearly inconsistent with any explanation in terms of deficiency disease. Towards an answer to the second question little direct progress has yet been reported. Moran and his collaborators,[4] however, have described a possible mechanism by which the still unknown toxic substance is produced. Not only the gluten fraction of flour but also casein, the zein complex of maize, egg albumen, haemoglobin, "and probably many other proteins" are also capable, when similarly treated, of giving rise to canine hysteria with the same symptoms that Mellanby earlier described. By supposition therefore the same toxic substance can be formed from these proteins also. On the other hand, negative results were obtained with arachine, isolated from peanuts, and kerateine; while in the case of gelatin the effect was slight compared with that of the other proteins mentioned previously. This suggested a comparison of the compositions, in terms of amino-acids, of these two groups of proteins, and the result indicated that methionine plays a key part in the mechanism. Arachine, gelatin, and kerateine each contain only about 0.5% of this amino-acid, whereas those proteins which seem to be connected with the toxic substance contain at least 2%. This interpretation is further supported by the fact that from defatted and agene-treated peanut meal it is possible

1 *British Medical Journal*, 1946, **2**, 885.
2 Ibid., 1947, **2**, 288.
3 *Lancet*, 1947, **2**, 289.
4 Bentley, H. R., Booth, R. G., Greer, E. N., Heathcote, J. G., Hutchinson, J. B., and Moran, T., *Nature, Lond.*, 1948, **161**, 126.

to separate two fractions—the first arachine, which as already stated is non-active, and the second a water-soluble protein which has an appreciable methionine content and, when thus treated, causes hysteria in dogs.

Two different experiments, however, provide evidence that the reaction is not limited to nitrogen trichloride and methionine. The first showed that casein, when treated as a complete protein, produces the toxic substance; but if first broken down by hydrolysis into its constituent amino-acids and then treated with nitrogen trichloride it has no harmful effect. The second experiment was concerned with methionine when separated from other amino-acids. This substance, mixed with starch at 14% moisture as a "filler," was found to be unique in its capacity to react with nitrogen trichloride and in fact took up one-third of its own weight. However, if the reaction was allowed to proceed to saturation the resulting product caused no toxic symptoms in dogs, while the symptoms produced by the same mixture at half saturation were a temporary paralysis of the legs which passed off within a few hours and was clearly distinguishable from hysteria. Both these experiments suggest that more than one amino-acid is involved in the production of the toxic substance which causes canine hysteria, but the second tends to confirm the supposition that methionine is the most important.

On the practical side the assurance has been given that other chemical "improvers" of flour—such as chlorine, chlorine dioxide, potassium bromate, and ammonium persulphate—produce no abnormal symptoms in dogs even when used in amounts twelve times the usual and administration is continued over periods as long as twelve weeks. Since nitrogen trichloride has now been incriminated when used to "improve" flour it should also be regarded with suspicion if used in the manufacture of any food. There seem, indeed, to be few proteins on which it does not act to produce substances which are toxic to dogs, and in the present state of knowledge it would be unwise to assume that man would be unaffected by such substances.

THE AETIOLOGY OF ANKYLOSING SPONDYLITIS

Although rheumatoid arthritis and ankylosing spondylitis possess many features in common the striking difference in the sex distribution indicates that their aetiology and pathology are different. Because ankylosing spondylitis occurs usually in young males the possibility of a prostatic focus being the cause has been considered, but no definite support for this was found, and investigation of the phosphatases, both acid and alkaline, has yielded indefinite results. The probability that the sex glands have an influence in both diseases cannot, however, be ignored and demands further investigation. Sjövall[1] concluded that 21% of women under 40 with rheumatoid arthritis suffered from ovarian insufficiency. On the other hand the young robust males attacked by ankylosing spondylitis often provide evidence of considerable sexual activity.[2] The influence of the sex glands on bone metabolism has been frequently demonstrated, and the association of osteoporosis with redeposition of calcium in adjacent tissues is suggestive of the part these organs may play in the aetiology of spondylitis.

Davison, Koets, and Kuzell[3] have recently studied the excretion of the 17-ketosteroids in both rheumatoid arthritis and ankylosing spondylitis, and they report marked differences between the two diseases. The 17-ketosteroids are a group of compounds forming the metabolic end-products of steroids originating in the adrenal cortex of the female and in the adrenal cortex and the gonads of the male. The excretion of these substances in the urine was found to be increased in ankylosing spondylitis. In a series of 13 cases with characteristic *x*-ray changes in the spine but without any changes in the small joints of the extremities the amount excreted averaged 27.3 mg. in 24 hours compared with an average of 14 mg. in the normal healthy males. In 11 females with typical rheumatoid arthritis chiefly affecting the joints of the extremities it was found to average 12.8 mg. compared with an average of 10 mg. for normal females.

These findings support the view that the sex glands may be connected with the cause of ankylosing spondylitis and in addition provide confirmation that the disease is not simply a form of rheumatoid arthritis. The research is being continued, and it is to be hoped that other workers will repeat these investigations in order that the facts may be verified and further light shed on both diseases.

[1] *Acta med. scand.*, 1944, **117**, 69.
[2] Buckley, C. W., *Ann. rheum. Dis.*, 1945, **5**, 49.
[3] *J. clin. Endocrinol.*, 1947, **7**, 201.

REGENERATION OF FASCIA LATA

Tissue regeneration after injury or operation is an interesting subject. The possibilities of bone reconstruction have been fully used by orthopaedic surgeons. The whole success of peripheral nerve surgery depends on nerve regeneration. Sometimes when regeneration of tissues is claimed the process is merely one of replacement by scar tissue, as is seen, for example, in the formation of disk-like structures after the removal of the menisci from the knee. There is obviously some practical importance in knowing what happens after the removal of fascia lata from the thigh in the process of carrying out surgical repair elsewhere, as is done by the methods of Gallie. Not only have many surgeons been concerned about muscle herniation but there is also the possibility that more fascia might be required from the same site at a later date. Does fascia lata regenerate sufficiently to close the gaps and is regeneration complete enough to permit the removal of further material later on?

Foshee[1] has endeavoured to answer these questions. His results are most interesting and are illustrated by excellent photomicrographs. In experiments with dogs, regenerated fascia lata was studied at different stages from the fourteenth to the ninety-seventh day after the original removal. Normal fascia is composed of three layers—inner and outer fibres with a middle longitudinal layer. The inner and outer transverse layers always regenerate satisfactorily, but no regeneration of the middle longitudinal fibres takes place. On the other hand, in the regenerated fascia the inner and outer layers hypertrophy to compensate for the lack of vertical fibre formation.

In another paper Foshee[2] reports his observations upon material removed from five patients, and it is apparent that human fascia lata behaves in precisely the same way. The transverse fibres do not always run at right angles to the longitudinal fibres, but the regeneration of the transverse inner and outer layers is so rapid and complete that it is never necessary to suture the gap in the fascia lata from which a transplant has been taken. Herniation does not occur. The more active the individual the thicker will be the regenerated fascia, and in six months to one year afterwards it will be sufficiently strong to be used successfully in certain surgical procedures in which ordinarily normal fascia lata is desired but lacking. In the human material it was clear that the regenerated fascial layers are direct extensions from normal fascial edges across the gap, but the noticeable density of the inner as compared with the outer layer suggested that the presence of the underlying muscle is of importance to the success of the regeneration.

[1] *Surgery*, 1947, **21**, 800.
[2] Ibid., 1947, **21**, 819.

PLEBISCITE ON THE NATIONAL HEALTH SERVICE ACT

Summary and analysis of replies received up to and including 16, February, 1948

TABLE I

(1) Reference to Plebiscite Form	(2) Classification of professional work	(3) Registered medical practitioners either resident in Great Britain or serving in H.M. Forces at home or overseas (55,842 plebiscite forms issued)						(4) Medical practitioners with foreign qualifications resident in Great Britain who are for the time being registered by the General Medical Council (1,233 plebiscite forms issued)		Classification No.
		England and Wales		Scotland		Total Great Britain				
		Approve	Dis-approve	Approve	Dis-approve	Approve	Dis-approve	Approve	Dis-approve	
A	1a. Consultant or specialist, not holding whole-time salaried post	228	3,655	41	432	269	4,087	4	12	1a
	1b. Consultant or specialist, holding whole-time salaried post	339	1,132	73	176	412	1,308	3	4	1b
"I APPROVE of the National Health Service Act, 1946, in its present form."	2. General practitioner, principal ..	1,207	13,614	206	1,689	1,413	15,303	4	5	2
	3. General practitioner, assistant ..	251	1,958	55	365	306	2,323	25	57	3
	4. Whole-time voluntary hospital ..	393	2,928	74	497	467	3,425	7	5	4
	5. Whole-time local authority general hospital	200	1,052	17	119	217	1,171	4	4	5
	6. Whole-time local authority special hospital	147	657	27	156	174	813	13	11	6
"I DISAPPROVE of the National Health Service Act, 1946, in its present form."	7. Whole-time public health service ..	277	1,683	39	245	316	1,928	9	5	7
	8. Whole-time Government service ..	101	519	26	115	127	634	2	3	8
	9. Whole-time teacher	95	313	15	111	110	424	1	2	9
	10. Whole-time research	92	182	12	38	104	220	2	7	10
	11. Other whole-time non-Government post	46	354	7	59	53	413	—	3	11
	12. Medically qualified dental surgeon	9	246	3	61	12	307	3	4	12
	13. Retired	148	3,355	28	524	176	3,879	1	—	13
	14. Unclassified	266	1,946	57	353	323	2,299	15	16	14
	15. Services, permanent commission ..					47	779	1	1	15
	16. Services, temporary commission, specialist					31	169	5	3	16
	17. Services, temporary commission, graded specialist					41	268	1	1	17
	18. Services, temporary commission, general duty officer					137	1,064	17	5	18
	Totals	3,799	33,594	680	4,940	4,735	40,814	117	148	

TABLE II

B		In Favour	Not in Favour	In Favour	Not in Favour	In Favour	Not in Favour	In Favour	Not in Favour	
"I AM IN FAVOUR of accepting service under the Act in its present form."	1a. Consultant or specialist, not holding whole-time salaried post	340	3,571	66	404	406	3,975	6	11	1a
	1b. Consultant or specialist, holding whole-time salaried post	473	946	92	148	565	1,094	3	3	1b
	2. General practitioner, principal ..	1,784	13,204	301	1,610	2,085	14,814	2	4	2
"I AM NOT IN FAVOUR of accepting service under the Act in its present form."	3. General practitioner, assistant ..	344	1,870	71	353	415	2,223	26	49	3
	4. Whole-time voluntary hospital ..	522	2,767	91	467	613	3,234	7	5	4
	Totals	3,463	22,358	621	2,982	4,084	25,340	44	72	

TABLE III

C		Do Not Agree	Agree	Do Not Agree	Agree	Do Not Agree	Agree	Do Not Agree	Agree	
"I AGREE to abide by the decision of the majority and undertake not to enter the service if the answers to part B reveal a majority against undertaking service as defined in para. 4 of preamble and if so advised by the British Medical Association."	1a. Consultant or specialist, not holding whole-time salaried post	406	3,406	67	387	473	3,793	3	12	1a
	1b. Consultant or specialist, holding whole-time salaried post	518	808	97	137	615	945	1	5	1b
	2. General practitioner, principal ..	1,887	12,671	351	1,506	2,238	14,177	1	7	2
	3. General practitioner, assistant ..	369	1,778	83	326	452	2,104	12	59	3
"I DO NOT AGREE to abide by the decision of the majority if it is against accepting service as defined in para. 4 of preamble."	4. Whole-time voluntary hospital ..	600	2,611	116	436	716	3,047	5	7	4
	Totals	3,780	21,274	714	2,792	4,494	24,066	22	90	

The work carried out by staff of the British Medical Association for the purpose of obtaining a plebiscite of the medical profession on the matters set out in column (1) of the above Tables was directed and supervised by our representatives continuously from its start on 27, January until 17, February, 1948. The completed plebiscite forms received during that period were examined only by our representatives and by staff of the Association working under our supervision and under pledge of secrecy and were retained under our control from the time of their receipt at B.M.A. House until their destruction in the presence of our representative on 17, February, 1948.

We satisfied ourselves by appropriate tests

(1) that all reasonable steps were taken to furnish a plebiscite form to every registered medical practitioner either resident in Great Britain (but not Northern Ireland) or serving in H.M. Forces at home or overseas and to every medical practitioner with foreign qualifications resident in Great Britain who was for the time being registered by the General Medical Council;

(2) that the figures set out in the foregoing Tables I, II, and III are a correct summary and analysis of the replies received at B.M.A. House up to and including the second post on Monday, 16, February, 1948.

3, Frederick's Place,
Old Jewry, London, E.C.2.
17, *February*, 1948.

PRICE, WATERHOUSE & Co.
Chartered Accountants.

PLEBISCITE RESULTS, FEBRUARY, 1948

SOME IMPORTANT PERCENTAGES

All percentages are calculated to the nearest whole number. 51,042 Plebiscite Forms were sent to practitioners other than those serving in H.M. Forces. The distribution of practitioners as between England and Wales and Scotland* is based on figures obtained from B.M.A. records.*

		Question	Total Voting	Percentage Approving the Act	Percentage Disapproving	Not Voting	Of those who Voted	
							Approving	Disapproving
All civilian categories	Great Britain	A	84%	9%	75%	16%	10%	90%
	England and Wales* ..	A	85%	9%	76%	15%	10%	90%
	Scotland*	A	79%	10%	69%	21%	12%	88%

	Question	Of those who Voted	
		(A) Approving (B) In Favour (C) Not Agreeing	(A) Disapproving (B) Not in Favour (C) Agreeing
Group 1 A. Consultant or specialist not holding whole-time salaried post	A	6%	94%
	B	9%	91%
	C	11%	89%
Group 1 B. Consultant or specialist holding whole-time salaried post	A	24%	76%
	B	34%	66%
	C	39%	61%
Group 2. General practitioner principal	A	8%	92%
	B	12%	88%
	C	14%	86%
Group 3. General practitioner assistant	A	12%	88%
	B	16%	84%
	C	18%	82%
Group 4. Whole-time voluntary hospital†	A	12%	88%
	B	16%	84%
	C	19%	81%

† Excluding those of specialist status (covered by Group 1 B) but including practitioners holding B1, B2, and A appointments and Class I and Class III appointments under the Government's postgraduate scheme for ex-Service practitioners.

BLOOD TRANSFUSION SERVICE FOR LONDON HOSPITALS

One of the important peacetime activities of the British Red Cross Society is the Greater London Blood Transfusion Service. An organization for the recruitment of voluntary blood donors for the service of patients in London hospitals was started as far back as 1921. It began with a telephone call from King's College Hospital to the Camberwell branch of the British Red Cross Society asking urgently for a donor. The secretary of the branch, the late Mr. P. L. Oliver, assembled his office staff and they all went to the hospital, where one of them was chosen for the immediate purpose. The transfusion was successful, and the patient's life was saved. Mr. Oliver then formed a company of men and women who agreed to have their blood tested and grouped and to stand by for a call from any hospital at any time. The service extended, and in 1926 was taken over by the B.R.C.S. as one of its own activities. By the outbreak of war in 1939 the service, with its experience of over 50,000 transfusions, proved of great help to the authorities in meeting the problem of expected war casualties.

After the war the management of the service was transferred from the Red Cross headquarters to a committee set up by the City and County of London branches of the Society, and a year later other county branches in the metropolitan area took a share in the management, so that now the Greater London Blood Transfusion Service covers London and five adjoining counties and serves fifty or more hospitals. The service is responsible for the supply of donors where it is essential that freshly drawn blood should be used. Every call is for a definite patient (there is no blood bank), and therefore the importance and urgency of the demand is brought home to the donor. The number of calls rose as the service became known; it was 1,095 in 1945, 1,863 in 1946, and 2,436 in 1947. In January, 1948, the number of calls was 273. The highest number received on any one day was 27.

All newly enrolled donors undergo a simple medical examination and their blood is tested and grouped by the medical officer to the Service, Dr. H. F. Brewer, at the Pathological Department, St. Bartholomew's Hospital. The Service is in a position not only to supply Rh-negative and Rh-positive donors of A, B, AB, and O groups, but also donors of any of the rare Rh sub-groups for both transfusion and research purposes. No maximum of donations is fixed for any one donor. More than half of those on the active panel have given blood over ten times, and more than a quarter have served over twenty times. One donor has served over one hundred times, and the seventieth birthday of another was celebrated by the seventieth transfusion, though it should be added that 65 is the usual age limit. The minimum period between donations is three months for men and four months for women, so that the maximum is four or three transfusions a year. In only two cases out of 60,000 has the service been made aware of a donor having suffered in health, even temporarily, from withdrawal of blood. All donors, however, are insured against ill-effects, and are examined after ten transfusions or multiples of ten.

It seemed interesting to inquire what is the bond which holds the thousand and more donors together. They are not paid for their service, only reimbursed for their expenses, and the calls must often be made at times which involve sacrifice. A high standard of discipline is exacted, and donors are expected to conform to Red Cross traditions. The secretary of the service, the Hon. Mrs. Kathleen Howie, stated that in her opinion the more important of the two factors which held the band of donors together was that each of them, after giving his or her blood, received a form describing the nature

of the disease or injury for which the transfusion was given (but not giving the patient's name), the amount of blood drawn, and the result of the transfusion so far as could be ascertained. The other factor is that donors receive a certificate with appropriate seals for the transfusions they have given. A considerable number have been awarded the silver bar for 50 transfusions. Another feature of the service is that a report is expected from the hospital or from the doctor giving the reason for and the result of the transfusion—the result not to be confined to such words as "satisfactory" or "good"—and in particular mentioning any untoward reaction which might possibly be attributable to the transfusion and of which the medical officer to the service should be informed. The headquarters of the service are at 10, Collingham Road, Earl's Court, S.W.5, and the telephone number, day and night, is Frobisher 6477–8.

NATIONAL INSURANCE

PAYMENTS AND BENEFITS

The Government has recently made Orders-in-Council making July 5 the appointed day for the National Health Service Act, 1946, and the Scotland Act, the National Insurance Act, 1946, and the National Insurance (Industrial Injuries) Act, 1946. Many medical men have wondered what the relation between these Acts is and what insurance contributions, if any, they must pay. We therefore outline below some points of interest to the medical man.

The present National Health Insurance scheme is contributory—that is, people pay weekly contributions in order to qualify for medical treatment from their panel practitioner. After July 5 it is proposed that the National Health Service shall be free to every man, woman, and child in the country without the necessity of paying insurance contributions. The National Health Service is, therefore, not a contributory scheme, but it is financed in small part from insurance contributions paid under the National Insurance Act. For each National Insurance contribution paid by a man over the age of 18, 10d. will be transferred to the fund required to finance the National Health Service; for each woman over 18 the sum is 8d., and for boys and girls under 18 it is 6d. It is estimated that these sums will provide about £32,000,000 towards the cost of running the National Health Service, which is £152,000,000 a year. This is a matter of Governmental book-keeping, and the Health Service remains available to all without payment, even, for example, to a person who has failed to pay his insurance contribution.

Contributors

For the purposes of the National Insurance Act the contributors are classified into three main categories: (1) employed persons (these are people gainfully employed under a contract of service); (2) self-employed persons (these are people who derive a living without being employed by some other person or body); (3) non-employed persons (that is, people who are neither employed nor self-employed). The people who come into these categories constitute rather less than half the population of Britain. Not included are wives, children under 16 or those who continue to receive full-time education after that age, and people with an income of less than £104 a year.

Contributions

Employees in Category 1 pay a weekly sum; their employers also pay a weekly sum. These are shown in the following Table.

Contributions Paid by Employees and Employers

	Employee	Employer
Men	4s. 7d.	3s. 10d.
Women	3s. 7d.	3s. 0d.
Boys under 18	2s. 8d.	2s. 3d.
Girls under 18	2s. 2d.	1s. 9d.

It is presumed that medical men working in the National Health Service will be regarded as employees, the employer of general practitioners being the local executive council and that of the consultants and specialists being either the regional hospital board or the board of governors of a teaching hospital. If a general practitioner has a small practice in the National Health Service and a large private practice he will presumably still be regarded as an employed person. Medical men who employ a secretary or a maid will pay the employers' weekly contribution, and the secretary or maid will of course pay the employee's. People who come into the second category (self-employed), such as doctors in private practice, pay weekly contributions at the following rates: men, 6s. 2d.; women, 5s. 1d.; boys under 18 who are not receiving full-time education, 3s. 7d.; and girls, 3s. 1d. Non-employed people whose income exceeds £104 a year pay at the following rates: men, 4s. 8d.; women, 3s. 8d.; boys, 2s. 9d.; and girls, 2s. 3d. Contributions will not have to be paid during periods of sickness or unemployment.

Benefits

The benefits available to contributors include unemployment and sickness benefits, retirement pension, widows' benefits, maternity grants and allowances, and death grants. Only employed people (Category 1) are entitled to unemployment benefit; non-employed people (Category 3) are entitled neither to sickness nor to unemployment benefits. Self-employed people (Category 2) may receive sickness benefits but not unemployment benefits.

Insured people must have paid in a certain number of contributions (which vary for different benefits) if they are to receive the benefits. For unemployment and sickness benefits at least 26 contributions must have been paid since that person became insured, and 50 contributions must have been paid or credited during the preceding contribution year. The contribution year runs from the beginning of July to the end of June the following year; the benefit year runs from January to December. Contributions are said to be credited when the insured person is exempt from paying them—for example, during unemployment or sickness. To qualify for the retirement pension at least 156 contributions must have been paid, with a yearly average of paid or credited contributions of 50; but people insured for the first time under the Act must complete 10 years' insurance to qualify for a pension. For a death grant to be payable the contributor must have made at least 26 payments and have either had 45 paid (or credited) contributions during the previous contribution year, or had a yearly average of 45 paid (or credited) contributions.

The unemployment, sickness, and retirement benefits amount to 26s. a week for the insured person, with additional allowances of 16s. for a wife and 7s. 6d. for the first child. Unemployment benefit is payable for 180 days, though more payments may be made if the person's contribution record is good or on the recommendation of a local tribunal. The insured person may requalify for benefit by returning to work and paying contributions for 13 weeks or more. People who have paid the minimum number of contributions required for sickness benefit will be entitled to receive that benefit for a year, and they will requalify for the benefit by returning to work and paying 13 weeks' contributions. However, contributors who have made 156 payments will receive sickness benefit for as long as the sickness lasts, even if it exceeds a year.

The benefits for maternity, for which contributions must have been paid by either the mother or her husband, are of two kinds: a grant of £4 on the birth of a child, or of £8 for twins, or £12 for triplets, and either a maternity allowance or an attendance allowance. The maternity allowance is 36s. a week for 13 weeks, beginning 6 weeks before the week in which confinement is expected. The attendance allowance is £1 a week for four weeks after confinement and is payable only to women whose contributions (or those of her husband) are not sufficient to qualify for a maternity allowance. The death grants are intended to meet funeral expenses of the husband, wife, widower, widow, and children. They are as follows: for a person over 18, £20; for children aged 6 to 18, £15; for those aged 3 to 6, £10; and for those under 3, £8. The grant will be paid to the insured person or, on the death of the insured person, to the person responsible for the funeral expenses.

Since people insured for the first time under the new Act must complete 10 years' insurance in order to qualify for a retirement pension, they may, after reaching pensionable age before completing that qualification, elect to do one of two things: (1) continue contributions until a period of 10 years is completed, or (2) reclaim with interest part of the contributions allocated to retirement pension and waive further claim. People who do not qualify for a contributory pension can apply for a non-contributory pension when they reach the age of 70, subject to certain conditions including a means test.

The insurance officer will decide claims for benefit, and the claimant may appeal to a local appeal tribunal. In certain circumstances the appeal may be continued to the National Insurance Commissioner, whose decision is final.

Some of the conditions outlined above depend upon regulations yet to be laid before Parliament. We understand that the Ministry of National Insurance will issue a booklet to the public during May giving a full description of the National Insurance schemes.

THE DOCTOR IN THE MAGISTRATE'S COURT

Another of the series of lectures on medico-legal subjects arranged by the Metropolitan Counties Branch for the benefit of senior students and newly qualified practitioners was delivered in the Great Hall of the Association's House on Feb. 3 by Mr. Claud Mullins, former metropolitan magistrate at the South-Western Court. Dr. H. Guy Dain, Chairman of Council of the British Medical Association, presided.

Mr. Claud Mullins said that when he first became a magistrate he was as cocksure as any of his legal brethren, but it took him only a few weeks to realize how much he needed the help of the medical profession. It was the sexual offenders first of all who compelled him to seek the advice of doctors. He could not understand why they did what they did, nor did he know what action he could take to prevent them from doing it again. Sir William Clarke Hall referred him to the Tavistock Clinic (the Institute of Medical Psychology), whose medical director, Dr. J. R. Rees, undertook to see such cases as he thought could be helped in that way. Some years before the war an inquiry was undertaken by the Prison Commission concerning the possibility of treating offenders of this type in prison. The report was rather a depressing one, especially with regard to the exhibitionist group, and was contrary to his own experience, which was that if an offender would go to a psychiatrist for treatment, and would stick to the treatment, he would improve. The failures were among those who would not go or, having gone once or twice, would not continue.

In the Criminal Justice Bill as introduced into Parliament just before the war there was a clause under which courts, through their probation machinery, could pay for doctor's treatment, but this clause did not reappear in the present Bill. A heavy blow would be struck at the use of psychiatry in dealing with offenders if the necessary treatment was required to be taken at mental hospitals, places dreaded by the rather primitive people concerned. Part of the success attending the treatment of the sexual delinquent was attributable to the private nature of the treatment; it was a great advantage if it could take place in the doctor's consulting room.

As a police magistrate he had often found doctors very useful in marriage cases. In many cases the real trouble between husband and wife was a complete inability on the husband's part to understand sexual manners. The man had never learned the elementary fact that there were times when a woman might not want sexual intercourse, and the result was frustration on the one hand and an unnecessary frigidity on the other. Magistrates felt that they were not the right people to teach sexual manners and that the services of a doctor could with advantage be offered. He obtained through the British Social Hygiene Council the names of doctors willing to undertake this task, and he found that if a couple could be persuaded to go to such a doctor concerning their matrimonial difficulties it almost always resulted in a reconciliation. He was rather proud of the number of cases which he had turned over to a doctor and which had been successfully resolved.

Inadequacy of the Law

All those who sat in judgment on offenders against the law were either lawyers or lay magistrates; on their decisions the fate of a criminal depended. Mr. Mullins thought the time was coming when the public would realize that for a good deal of crime a fair trial and a sentence according to law was not enough. Lawyers and lay magistrates were not always the best people to decide on the course to be taken with an offender, and it was by no means only in sexual cases that psychiatry might be needed. At all times there were in prison men, and women too, who could have been made into decent citizens if only when the case was heard someone had been present to point out to the judge, the recorder, or the magistrate what course was likely to be most successful in putting them right. He believed that at some future date crime might be divided into two classes, medical and non-medical. The law was inadequate to deal with some types of crime. Before sentence was passed in these cases there should be provision for social investigation by probation officers and for medical investigation by doctors. He wanted to see doctors take at least as important a place in court as the officers already there. He wanted them to come in, so to speak, in the province of the sentence.

In some discussion following the address the question of doctors called in by one side and giving partisan evidence was raised. Mr. Mullins said that it was certainly an undesirable position when the doctor was called in by one side or the other, exposing him to the criticism that he was weighting his evidence in favour of the side which had called him in. The more desirable arrangement would be a medical panel available to the court. Doctors from this panel would in certain cases give their opinion previous to the trial, and if they decided that the man was of unsound mind the trial would not proceed. It was perfect nonsense to submit evidence of insanity to a jury.

Asked whether there was likely to be any change in the McNaghten "rules," Mr. Mullins said that these "rules" had caused great controversy. Before the war a committee recommended that irresistible impulse should be regarded as an excuse within the McNaghten rules; he was against this because it could be pleaded by criminals to cover many crimes. What he wanted to see was an alteration of the procedural law; he wanted a classification of degrees in murder, proper medical investigation of cases beforehand, and, if there was a conviction, more cases to be sent for medical investigation and treatment.

L.C.C. PUBLIC HEALTH DEPARTMENT

Structure under National Health Service

The new structure of the Public Health Department of the London County Council, to enable it to fulfil its functions under the National Health Service Act, Sections 21–9 and 51, has now been determined. On the appointed day the council ceases to administer its hospital services and becomes responsible as local health authority for London for the personal health services defined in Part III of the Act. It has already submitted proposals to the Minister for the administration of the majority of these services—care of mothers and young children, health visiting, home nursing, prevention of illness, and care and after-care, vaccination and immunization, and duties under the Lunacy and Mental Treatment Acts and the Mental Deficiency Acts. The midwives' service scheme is already administered by the Council. Proposals have not yet been submitted for the health centre service. The Council will, of course, continue to administer through the public health department certain services, as, for example, the school medical service, which devolve upon it under other legislation.

New Medical Staff

Heavy responsibilities will fall on the medical officer of health for the county in providing the link between all sections of the National Health Service, and therefore it is proposed that the position of deputy medical officer of health,

which has been vacant for some years, should now be filled. The salary scale will be £2,000, rising by biennial increments of £250 to £2,500. In addition a principal medical officer of high administrative ability, with particular knowledge of maternity and child welfare, will be appointed at a salary of £1,800, rising by increments of £100 to £2,000, as well as two medical officers for inspectorial and advisory duties in the field of maternal and child health (£1,500–£100–£1,800), and a third senior medical officer whose principal responsibility will be the medical examination of staff. It is expected that the number of health visitors, school nurses, midwives, and home nurses, together with domestic helps, will exceed 3,000. A chief nursing officer will be appointed, with a status enabling her to represent adequately the medical officer of health in discussions and negotiations with senior officers in other branches of the National Health Service.

Divisional Organization

The County of London is being divided into nine areas, each with a population of approximately half a million, for the day-to-day local administration of the personal health services. In each of the nine divisions it will be necessary to employ a divisional medical officer to supervise and co-ordinate the personal health services. The salary scale suggested for these positions is £1,500–£100–£1,800. There will also be in each division a principal administrative officer and a principal nursing officer. The Council reserves the right to transfer divisional staff from one division to another, but as it is realized that the successful functioning of the new divisional organization will be dependent on local knowledge and experience it is not expected that such transfers will be made except in very unusual circumstances.

Reports of Societies

CARDIAC CATHETERIZATION

At a joint meeting of the Manchester Medical and Pathological Societies on Jan. 14 Prof. J. MCMICHAEL gave an address on cardiac catheterization.

Prof. McMichael said that catheterization of the heart was introduced by Forssman in 1929 and subsequently used extensively in Portugal, France, and Latin America for injecting radio-opaque substances so as to define vessels at the root of the lung. Cournand in 1941 was the first to report its use for the measurement of pressure in the chambers of the heart, and by the application of the Fick principle he also measured the cardiac output. The method had been applied in 800 cases at the London Postgraduate Medical School without untoward incident, and its use was now spreading widely in research centres in both America and Europe. Blood never clotted on the surface of the catheter; but small pin-head thrombi occasionally formed at the tip, and some of them must have escaped into the lungs, where there was good reason to believe they were harmless. In the right ventricle the tip of the catheter might excite extrasystoles, and runs of extrasystoles might harm patients whose cardiac condition was already precarious. One death had been reported in Holland in a patient with gross disease of the coronary artery following right ventricular catheterization. This was the first known fatality in an estimated 3,000 cardiac catheterizations. With the catheter in the right auricle there were no significant risks if proper precautions were taken. The standard error of right auricular samples used for the determination of cardiac output was plus or minus 4%.

Patients with cardiac venous congestion and oedema fall into two groups. In the ordinary forms of heart failure resulting from hypertensive valvular and ischaemic heart disease the cardiac output was reduced to about half the normal level. In another group in which the congestive phenomena resulted from (1) anaemia, (2) emphysema, (3) conditions in which there was an increased mechanical burden on the circulation (e.g., arteriovenous aneurysm, generalized osteitis deformans), the cardiac output was raised above the normal. These high-output types of cardiac failure were recognizable not only aetiologically but also clinically: warm hands and full peripheral pulses contrasted with the cold extremities and feeble pulsation often present in the low-output group.

The immediate action of intravenous digoxin on the normal heart was to lower the output and the venous pressure. A similar reaction was the rule in high-output heart failure in which digitalis was unlikely to be of benefit. In low-output failure, however, digoxin raised the output of the heart. Venesection reproduced the action of digoxin on cardiac output. It was probable that digoxin had a primary venous pressure-reducing effect which relieved the overstrained failing heart. Digitalis acted quite as well whether auricular fibrillation was present or not. Theophylline had a similar action on the venous pressure but was also a direct cardiac stimulant. Theophylline-ethylene-diamine was of particular value in hypertensive cardiac failure, but its effect was less dramatic in mitral stenosis.

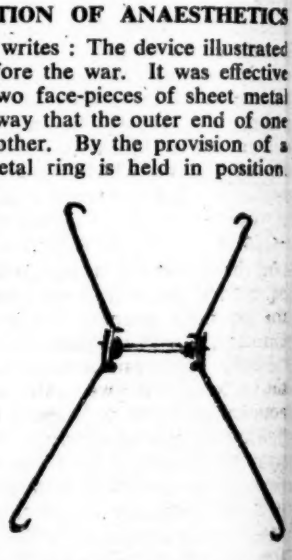
In congenital heart disease the simpler defects could often be clearly diagnosed by cardiac catheterization. An inter-auricular septal defect was recognized by the admixture of "arterialized" blood with venous blood in the right auricle. The cyanotic forms demanded great skill in analysis with fluoroscopic control and pressure measurements at every point. With right to left shunt the method had certain risks, as tiny emboli might be serious. The selection of cases for Blalock's operation was usually made on clinical grounds. Bing's test of falling oxygen-uptake per litre of ventilation on exercise was a valuable index of pulmonary stenosis.

Cardiac catheterization, Prof. McMichael concluded, had come to stay. Further research possibilities were indicated by Bing's recent success in sampling blood from the coronary sinus. When such sampling was combined with the nitrous-oxide method of Kety and Schmidt for measuring organ blood flow we should be able to measure the volume flow in the coronary arteries. The catheter had also been used to reach the hepatic and renal veins. New avenues of research were clearly being opened.

Preparations and Appliances

DEVICE FOR ADMINISTRATION OF ANAESTHETICS

Dr. G. C. PETHER, Barnet, Herts, writes: The device illustrated was made to my instructions before the war. It was effective in use and very economical. Two face-pieces of sheet metal are made to interlock in such a way that the outer end of one fits inside the outer end of the other. By the provision of a ridge as shown a detachable metal ring is held in position. This ring supports a thin sheet of asbestos gauze on to which the anaesthetic is poured. The asbestos is a substitute for cotton gauze. Of the two face-pieces the larger is for adults and the smaller for children. Each face-piece has a gutter round its periphery to trap any anaesthetic which may run down from the asbestos.



When in use the mask is applied over a piece of Gamgee tissue. If an adult is to be anaesthetized, the anaesthetic is poured into the opening of the child's face-piece; if a child, then into the other end. After use the whole apparatus is sterilized by flaming, gauze included. Ether and chloroform consumption is greatly reduced, and cotton gauze is not required at all.

A recent PEP broadsheet, *Family and Nation*, stresses the nation's interest in strengthening and improving family life. It proposes that greater financial aid should be given to parents as soon as the economic situation permits. This should be done by increases in family allowances and maternity grants, reform of tax rebates, and provision for low-interest marriage loans. The second half of the broadsheet discusses health examination before marriage, marriage guidance, birth control, abortion, sterilization, childlessness, and artificial insemination. It is proposed that a Family Welfare Service should be set up to deal with these problems.

Correspondence

The Plebiscite

SIR,—I have read and reread the Plebiscite Form. I am in a quandary. How do I reply to Question C? I shall answer Questions A and B in the negative. As I am not willing to sell my practice to the Minister of Health, nor to any other person who would not be personally interested in it—nor do I approve of the salary element—I cannot agree or disagree with "the majority."

My wife and I have discussed our probable financial position should the Act come into force, and as individualists we are prepared to stand on our own feet even though the profession sells itself to the State: and we are well aware that it may be equivalent to financial suicide. We are prepared to take the risk—and the risk to the higher education of our children—because we are both convinced that the fundamentals of the Act are morally wrong. It is another example of the State supporting the individual, whereas the individual should support the State. To us "social security" is the antithesis of incentive and reduces the speed of every hare to that of tortoises. A pension in lieu of full salary (in the doctors' case salary plus capitation fee *at present*) is not our idea of a sound moral training. Is the individual so weak-minded or improvident that he cannot be expected (or permitted) to save for himself? I am open to further arguments regarding the sale of my practice to the Minister of Health: but, until I am convinced that having sold to him he *cannot* force me into a salaried service, I shall retain my capital in my own hands and take the risk of it depreciating to *nil* should the vote be in favour of accepting service under the Act in its present form.

To my mind a National Health Service should and can be born, and soon. I want to take part in an N.H.S., but not to the detriment of my self-respect. I hope that every medical man, both those qualified and those preparing to qualify to practise, will read again and again the article by Colm Brogan (*B.M.J.*, Jan. 31, p. 209) and take it to heart. It will be cowardice that sells the soul of medicine to the State. What shall it profit a man if he gains the whole world and loses his own soul?

Am I, Sir, justified in answering Question C of the plebiscite in the affirmative, since I do not wish to be released from my undertaking in answering Question B in the negative?—I am, etc.,

London, N.19. C. H. JOHNSON.

Attack Now

SIR,—Like myself there must be a large number of doctors who, although whole-heartedly against Mr. Bevan's Act, are afraid that they will lose their life-savings, as represented by the compensation, if they fail to sign on the appointed day. Letters in the *B.M.J.* and conversations with other doctors show that this fear has not been entirely allayed by the assurance of the B.M.A. If we wait until July 5 before taking any action we have to fight: (1) without our N.H.I. cheques, because existing contracts will be cancelled on that date, and (2) without the fees of a large number of our present private patients, either because they will be quite genuinely unable to afford both private and public service—this latter being of course compulsory—or because they are unwilling to do so; and we run the risk of losing our compensation—in my case some thousands of pounds I hope. I would suggest, Sir, that if the plebiscite result justifies it, as it gives every indication of doing, we should attack *now* by resigning from the N.H.I. on April 1. The resulting confusion would soon force Mr. Bevan into a more reasonable frame of mind, as it did in the matter of the capitation fee, and (this is the main point of my suggestion) would give us the advantage of the three remaining months of our existing private practice before the date to sign or not to sign.

Common sense tells me that Mr. Bevan could not hold out against such a state of affairs for twelve weeks, and that by the appointed day we should have won the battle and there would be no fear of not being able to sign on July 5 and so risk losing our compensation. Finally, Sir, it is my opinion that the fear of loss of compensation is the strongest card in Mr. Bevan's hand and that it will become stronger as the date approaches. Parliament will, I am sure, endorse Mr. Bevan's policy this week, and, however big a majority of "Noes" the plebiscite may reveal, the position will remain the same. Therefore, I suggest, do not wait until July 5 but attack *now*.—I am, etc.,

Nantwich. K. KNOWLES.

Buying and Selling

SIR,—Is clarification of our ideas and emotions really helped forward by dismissing as "nonsense" views which do not secure your agreement? The comparison between dealing in practices in a nationalized health service and dealing in commissions in the Army is not wholly invalid inasmuch as in both cases one buys a right to an income from public funds. The newly qualified doctor who has secured a bare pass but whose wealthy father is able to buy for him a practice which an honours man after three or more years of postgraduate hospital work is quite unable to afford is not altogether different from the young gentleman whose father in days gone by could buy his commission.

Again, many of us find it difficult to defend our official position on this point when a layman declares that it is "nonsense" to claim the right to buy and sell practices in a public service. Anyone who offers a practice for sale is on difficult ground if he tries to probe into the professional aptitude, moral code, or social standing of a purchaser who is willing to buy and able to pay. It is really difficult to dismiss as "nonsense" the contention that a transaction of this kind is a buying and selling of patients, particularly as the vendor hands over the most intimate records of his patients without taking any steps to assure himself that they will employ the purchaser.

I hope and believe that there will be a vast majority of "Noes" in the plebiscite, but I submit that it is unwise to overlook the fact that they will be tendered for many different reasons.

It seems to me, as an unimportant and uninfluential member of the profession, that the time is more than ripe to change the whole incidence of our propaganda. The public is not interested in *our* grievances. We must bring it home that this or any similar Act will not make available one extra consultant, one extra general practitioner, one extra matron, sister, or nurse, one extra wardmaid or orderly; that it will not add a single bed in any available ward or reopen any single ward now closed for lack of staff; that it will do nothing to provide an extra service or building of any kind. The Act can do nothing to cause a levelling-up of skill or services but may do much to cause a levelling-down. The Act will cause those who have average or less than average sickness to pay a great deal more than they have hitherto done for medical attention.

At the risk of being accused of wanting to rock the boat at a critical time I would like to conclude by expressing my considerable uneasiness when I note that a large section of the press (nearly all of it if one excludes Lord Kemsley's excellent papers) is hostile and that the majority of the public are apathetic, perplexed, or openly hostile. If we have, as the vast majority of us believe we have, a very good case, why are these things?—I am, etc.,

Launceston. DONALD M. O'CONNOR.

Amendments to Act

SIR,—Resolutions expressing disapproval of the National Health Service Act are being carried by overwhelming majorities at professional meetings everywhere, but do these votes have very much significance? It is surely clear that almost any medical man can find something in the Act with which to disagree, and can therefore in all sincerity vote against it as it now stands. Since, however, the feature which offends one may appear highly desirable to another, who in turn objects to some quite different section, it does not inevitably follow that a mass vote against the Act is a mass vote against the whole or even against some specific part of the scheme. Therefore a large majority voting in disapproval of the Act does not necessarily imply an equally strong support for the full programme of amendments in the summary at the end of the statement of the Negotiating Committee's case which has been circulated by the Council of the B.M.A. Indeed, to judge by the correspondence in the *Journal*, it would seem that few of the

proposals command individually the support of an effective majority in the profession, and from the comments in the press it appears doubtful if any single one finds much sympathy among the general public.

The implication of *The Times*'s question, quoted in the leading article on "The Press and The Profession" in the *Journal* of Jan. 24 (p. 155), as to the nature of "the B.M.A. questionnaire" is emphasized and expanded in the letter from Dr. J. Shackleton Bailey (p. 167). I agree entirely with his view that the only amendments which can or should be secured are those which have the support of a very substantial majority of the profession, and that the Association should at once take steps to discover which of the proposals of the Negotiating Committee do in fact obtain such support. If this can be done it becomes possible, by selecting those points on which the profession can be virtually united, to create the essential factor for success in obtaining an amended Act and a reasonably satisfied and contented body of doctors to operate the Service. If, however, the B.M.A. continues to press for a whole series of amendments, many of which are opposed by considerable numbers among the profession, then it cannot fight whole-heartedly, nor is it likely to impress a Minister who is presumably well aware of the divergent opinions held by his opponents.

The letter from Dr. J. V. Dockray (p. 172) encourages me to believe that, unless the B.M.A. succeeds in crystallizing the issues more effectively, I shall not be alone in accepting service under an Act which I do not altogether like, but which appears preferable to the amorphous mass of amendments put forward by the Negotiating Committee.—I am, etc.,

Maryport, Cumberland. J. D. H. BIRD.

An Amending Act Needed

SIR,—If, as we all believe, the plebiscite shows an overwhelming majority against the Act, the Council might consider issuing a statement incorporating the following points. (1) The profession is *not* against a satisfactory health service. It is against the Act *in its present form*. (2) If amending legislation is passed incorporating the points of difference it would have the support of the whole profession. (The points of difference seen to be most adequately recorded in the resolutions of Jan. 5 of the Fellows of the Royal Faculty of Physicians and Surgeons of Glasgow.) Such an approach would put public opinion well on our side and give the Government and the people a final chance of preventing an unfortunate conflict.

If no response to this offer is made by the Government, then a trial of strength should be made by withholding certification. This would give us confidence in ourselves and our fellow practitioners before the appointed day, and perhaps force a solution.—I am, etc.,

London, N.W.11. HAROLD E. THOMAS.

Alternative Plan?

SIR,—I am strongly opposed to the State scheme. I have recently purchased a practice and a large house that goes with it and therefore have heavy financial obligations. I have signed the plebiscite that I will abide by the decision of the majority. But I know that as the "appointed day" approaches there will be increasing mental conflict between loyalty to the profession and that of my obligations—the latter affecting the well-being of my family. There must be many others in the same position as myself. This is just what Mr. Bevan wants!

We as a profession must realize that the plebiscite will not be enough and that doctors will not just stay out, risking thousands of pounds depending on the loyalty of others over whom they have no control. I therefore wish to emphasize the following points: (1) Mr. Bevan no doubt has his plans. We must not underestimate the strength of the "enemy." (2) In order for the doctors to remain adamant, they must have concrete plans of action. We have not yet been informed of any and do not know if they even exist. (3) We should preferably act as long as possible before the appointed day—i.e., while our compensation, etc., is not at stake. (4) Clear propaganda both for the Press and surgery waiting-room to let the public see that it is also their fight. (5) Those who are members of bodies which do not support the wishes of the majority should resign from those bodies.—I am, etc.,

London, S.E.20. L. A. LAVENTHALL.

Compromise Suggested

SIR,—I once heard a young lady say that, however much she rebelled against parental authority, she always ate all she ever could. That is a sound principle. Parliament has approved the National Health Service Act, 1946, and papa Bevan advises the B.M.A. to put on record the opinion that, while they may disagree with the Act in this or that particular, nevertheless they will loyally accept the decision of Parliament and go on agitating for such revision as they think proper. That seems sound advice. While we may agree with the leading article of the *Sunday Times* that Sir Stafford Cripps has been grossly unjust to the doctors, and while we may deprecate Mr. Bevan's haughtiness with the Negotiating Committee, there still seems no need for imposing on the rank and file of the profession the self-immolation of starvation on July 5. There can surely be some give and some take.

If we examine dispassionately the main points of obduracy on the part of the Negotiating Committee, and intransigence on the part of the Minister, they resolve into four: (1) ownership of goodwill; (2) appeal to the courts; (3) element of basic salary; and (4) negative direction.

The essence of practical policy, not to say sweet reasonableness, would seem to be compromise, for which the British have some reputation. Taking the points in order, I would observe upon the first that maintenance of the position that we prefer the succession of a medical practice to depend on the purse rather than on nomination, with its accompanying risk of some degree of nepotism, is somewhat a pious expression of choice between two evils. Neither way is perfect, neither is worth fighting for. I for one will not be led out on hunger-strike to maintain the first point.

As regards the second point, I do not object to adjudication of disputes by a reasonably constituted tribunal. It would probably be just as fair as the courts, and certainly less expensive. If the Negotiating Committee prefer the corresponding clause in the Health Act for Northern Ireland, by all means let them ask for it. Just as with the first point, I find nothing here to justify me in hunger-striking.

The third point is more important. While here, as on the first two points, I feel no great trepidation about the basic salary I realize that the bulk of my professional brethren do. I think if the Minister met us on this point he could also reasonably concede the fourth—namely, conversion of negative direction into positive inducement by giving a basic salary in certain under-doctored areas.

I have therefore to propose that the B.M.A. Division authorize the Negotiating Committee to yield gracefully on the first two points and ask the Minister in turn to compromise on the other two. Surely that would secure our profession's freedom and, just as important, freedom of movement. Should the Minister prove intransigent and refuse seriously to negotiate on a new approach, then the B.M.A. can declare a dispute and call a no certification strike before July 5. I for one will join it. If, on the other hand, the B.M.A. defer action until July 5 I shall not commit my family to a hunger-strike at their bidding nor do I think will a great many doctors who would support them in a reasonable middle course.—I am, etc.,

South Molton, Devon. R. A. NASH.

Basic Salary Compromise

SIR,—I should like to suggest a possible compromise between the doctors and Mr. Bevan on the basic salary dispute. The doctors do not want to be paid for the work they do by salary. Mr. Bevan wants to help the young doctor starting in practice. Every doctor has certain basic expenses. He must maintain a car. He must provide a surgery, keep it clean, and equip it. He must pay somebody to take in messages from his patients. These items alone cost £300 a year.

Could not Mr. Bevan call his basic salary an "essential expenses allowance" and guarantee to the doctors by amending his Act that the "salary" will never exceed in amount the minimum expenses every doctor incurs? The work a doctor does for his patient can then be paid for by capitation fee. I should not object to this form of "salary." Would other doctors? I have sent this suggestion to my local M.P. for Epping.—I am, etc.,

London E.4. JOAN WAGSTAFF.

Where is the Staff?

SIR,—While in favour of the National Health Act, even as it stands, in my view the main issue in refusing to join this service is that in doing so we, as medical practitioners, are aiding the delusion of the public. What are they offered? (1) Free service at time of service.—Where are the doctors needed? (2) Free hospital treatment.—Where are the beds? (3) Home help and home nurses.—Where, oh where, are the nurses? Surely we are not going to help the general public to expect these, at the moment, Utopian ideas. By all means let us have a comprehensive service, but let us first have the man-power and woman-power to implement these ideals.—I am, etc.,

Bristol. REGINALD E. GIBSON.

Tell the Public

SIR,—I believe that if the National Health Scheme be accepted in the present form the public would be the first to bitterly regret the step before long. It would seem that the public ought to be educated as to why the medical profession is largely in opposition to the scheme, as the Government propaganda machine is trying to represent the medical profession as a mercenary body interested only in its vested interests.

I believe that doctors should explain to their patients in the course of conversation what a menace to the free action of doctor and patient is involved in this political scheme.—I am, etc.,

Prestatyn. T. H. HARGREAVES.

SIR,—In reviewing the campaign up to the present, there still seems to me to be much doubt in the minds of the public, and to a lesser degree in the minds of the doctors themselves, as to what it is all about. I am fully aware of the good work done by the B.M.A., and I hope the doctors have taken it to heart. But we must not forget the first importance of public opinion (after all, it is the public who stand to gain or lose by it). Many lay people of all types have discussed it with me, and it is clear that they have the most confused ideas about the whole thing. Many of them think that it is a purely political move. One friend of mine who has had very wide experience as a journalist said: "Why can't you medical people draw up a very short list, setting forth very simply what you stand for? It should not be more than 500 words. It should have the widest possible publication, so that everyone who reads any newspaper, all over the country, can see it and grasp its meaning easily."

Large numbers of letters, and very long tedious articles, have appeared in different papers already. People are only confused by such articles, and the letters generally each take up some particular point, and then reach only a limited circulation. I send you this suggestion for what it is worth, but personally I feel it might do much good to clear the air of a good deal of doubt and misunderstanding. The doctors have been told, but it is equally necessary to tell the public and to tell them in a manner which they can readily understand. They will then be able to form their own opinions—they have certainly not been able to do so up to now. It is no use to send a notice to any one particular paper, which only reaches a small section of the people. The notice *must* have the widest possible publicity; but I imagine this could be arranged with the Press.

If you think it a good plan to act on these lines, naturally the sooner something is done about it the better.—I am, etc.,

London, W.1. REGINALD C. JEWESBURY.

SIR,—At a meeting held in this small village recently a resolution was passed, by an overwhelming majority, supporting the doctors in their dispute with the Minister of Health, and urging that remuneration in a National Health Service should be by capitation fee only. The meeting was arranged by myself and was attended by my partner and by two other doctors practising in the district. About 150 of our patients crowded into the village hall in response to our invitation that they should come to ask questions. Many of them have since told me that before the meeting they were quite ignorant of the issues at stake, and they have urged me to ask you to bring our meeting to the notice of doctors throughout the country so that similar meetings can be held elsewhere. They were convinced, and I fully agree with them, that if patients could hear their own doctors' points of view we would have a much more powerful force of public opinion behind us than we have now.

I suggest to any of my colleagues who contemplates holding a similar meeting that: (1) The discussion should be kept as far away from party politics as is possible, and indiscriminate slanging of individuals or parties should be avoided. The experience of our meeting showed that Socialist supporters could be won to our point of view. (2) The issues involved should be kept as simple as possible, and the "capitation fee *versus* salary" controversy should be the main point for discussion. (3) The public should be told that we are fighting their battle even more than our own. One of my patients told me after the meeting that the layman seemed to find it difficult to realize that any group of people could in these times be indulging in political agitation with the object of benefiting humanity rather than of improving their own financial status.—I am, etc.,

Ash, Canterbury. J. D. OGILVIE.

SIR,—Perhaps the weakest link in the B.M.A.'s chain of opposition to Mr. Bevan is its failure so far to produce a coherent alternative plan. Let there be even a unanimous decision to reject the present "health service"; what is to take its place? There must be few doctors who are glad to acquiesce in a system in which some of their patients are deprived of investigations and treatment because they cannot afford them. Journeys by ambulance, *x* rays, flying-squads, etc., vary in their availability in different areas, and it is in the field of rationalization and standardization of equipment and provision of facilities that the medical profession has itself long advocated reform.

The B.M.A. would strengthen its case if it were to make clear its willingness to co-operate in the development and organization of technical services whose desirability is not disputed. If these were paid for out of public funds the Minister would naturally have a right to supervise them, and would also have a duty to answer for their proper use in Parliament. But even the most elaborate scheme for equipment, accessory services, and nursing facilities need not in any way curtail the freedom of the medical practitioner, who would simply be assured of their availability to all his patients whatever their income. He himself could be free to make an individual contract for service with each of his patients, either privately or through an insurance agency (whether the latter was Nationalized, or Friendly need not concern him). If the Minister was anxious to transfer doctors from Bournemouth to Jarrow, on his own assumption that their god is their income, he would have only to subsidize the contracts offered by insurance agents in Jarrow for queues to form on platforms to the North.

Much of the opposition to the B.M.A. among patients is based upon the fear that the doctors are in some way against the provision of the "best possible medical treatment for all" so liberally promised by Mr. Bevan. This opposition could well become support if it could be made clear, by alternative proposals, that doctors do in fact want every facility and service to become available to their patients, together with the freedom to employ individual judgment in their use.—I am, etc.,

Oxford. E. M. VAUGHAN WILLIAMS.

Free Choice

SIR,—Freedom is necessary both for the consultant and the general practitioner. The profession has turned down negative direction as a negation of freedom. The Minister of Health called the sale of practices a blot on our medical system. The Conservative Party, during the debate, was in tacit agreement. It is the weakest part of the doctors' case, yet it is intimately connected with their professional freedom. It is a measure of the present impasse. Can a solution be found, and can the gap be bridged?

At present for the transfer of a panel practice patients on Dr. A's list are notified that he is relinquishing his practice, but that they will be transferred to Dr. B, his successor, unless they take their card to another doctor for signature within one month. I would suggest a change, and hope that a different formula might prove acceptable to both sides. On the transfer of a public practice all patients on Dr. A's list are notified that he is relinquishing his practice on a certain date, and that as

they will *not* be on the list of any doctor then, they must re-register with the doctor of their choice. Further, it might be stated that Dr. B. will be practising at the same address, where they can register, or with any doctor in the neighbourhood. A list of such doctors might be included if thought essential. Undoubtedly, doctors now in practice would lose materially, but they should gain a lot more. They would retain their professional freedom and that intangible asset, goodwill. It would be entirely ethical, and completely undermine our opponents' case, for there would be a completely free choice of doctor and no buying and selling of patients, however they would argue, and no bulk transfer of patients. It would enormously strengthen the B.M.A. case.

There would be no need for the Government to buy out the practices, nor for committees to deal with direction. A longer introduction would be necessary, and this would help to cushion out the changes, so materially helping the new scheme. It would prevent the scandal and abuse in the exploitation of the sale of practices, free the family doctor from any taint of commercialism, and give a better understanding with his patients. It would help the young doctor, for premiums would be less and he would not be overloaded with debt. The basic salary should be limited to the young doctor in his first practice for a maximum of, say, five years, and as an inducement in *proved* under-doctored areas.—I am, etc.,

Leamington Spa. I. H. GRACEY.

Choice of Consultants

SIR,—It would appear to be inevitable, under the regionalization which is consequent upon a State Medical Service, that the general practitioner will be directed as to where he should send cases for hospital or specialist treatment. The planners tell us that all branches of the specialties will be covered in the various regions of the National Health Service, but one anticipates that our present right to send cases where one likes will be taken away. At present if a specialist opinion is required, whether for a private or a hospital case, the general practitioner has been able to send the patient to the most expert opinion obtainable. In the London area a neurological case may be sent to the National Hospital, Queen's Square, a paediatric case to Great Ormond Street, or a proctological one to St. Mark's or the Gordon Hospital. Furthermore, many of those practising around London have their old teaching hospitals close at hand and have naturally referred cases to their old teachers and colleagues. It is quite obvious that the bureaucrats who administer the National Health Service will be most displeased if an old St. Thomas's man, practising at Enfield, refers a case to his teaching hospital, which is outside his present section. Similarly, a Bart's man in Surrey or a Guy's man in Middlesex may be prevented from using his old hospital.

In the Services one saw the evils of ultra-regionalization. If one wanted a psychiatric opinion the case had to be referred to the nearest psychiatrist, for whose reports one might have little regard. The same applied in other specialties at the static military hospitals in this country. One might be lucky and have a team of good specialists available, or, on the contrary, there might be a "dud" in some department who could not be circumvented. The fact that a specialist was recognized or "graded" by the authorities at the War Office was an excellent system in its way, but, as every practitioner knows, there are specialists and specialists. The G.P. has his own pets, whose opinions he values and whom he can recommend to his patients with the utmost confidence. It is his duty to find the best possible opinion available when it is needed, and not to trust a system which may plant a "dud" on him at some local hospital.

This problem of choosing consultants was recently brought home to me in a urological case which was twice misdiagnosed by one hospital and which was correctly diagnosed and cured by a specialist hospital. Other G.P.s must constantly meet such cases where, when one consultant misses the bus, they can intervene and send the case elsewhere with satisfactory results.

Lastly, many patients express a preference as to which hospital they wish to attend and which specialist they desire to consult. It is to be hoped that in framing the regulations of the "revised" Act this fundamental right of both patient and practitioner may be preserved.—I am, etc.,

Petersham, Surrey. JOHN M. JACKSON.

Individual Freedom

SIR,—The majority of the medical profession have at one time or another served in one of the Forces. There appears to be insufficient discussion as to the lessons we have learnt during that time. Furthermore, the public seem to have forgotten their condemnation of the "general-practitioner-types" of the Services. The condemning request made by serving soldiers to their R.M.O.s of "I want to see a specialist" sums up their attitude to a nicety and at the same time shows the ignominious position to which they have delegated the essential part of our profession, namely, the general practitioner. Few can fail to remember the deplorable lack of enthusiasm for learning that pervaded some of those doctors whose working hours were spent directing us rather than attending the sick. Are these specialist gentlemen to participate in the health scheme as organizers of the Service and are they with their office staffs to be allowed to pour forth the same dreary set of forms as we were accustomed to see in the Services?

One can view the inexorable descent of the prestige of the general practitioner. He will be considered the clerk to the so-called "true doctors"—the specialists! Surely a sad and dangerous retrogressive step. As in the Army, this type of work can be performed by the corporal, who is aware of the number of the "specialist form" and does not require the painstaking training of eight or more years which is the sturdy background of a qualified doctor to-day.

What was the reason for this sudden change of efficiency? I would suggest it was due to a man being deprived of the major part of his personal responsibility, his individual status, being plagued and frustrated by a superfluity of forms, and having his enthusiasm blanketed by the people who are engaged in controlling him. He is converted from an individualistic worker to an over-controlled unit in a large machine, realizing his progress and stability of position lay not in critical work and fighting for small improvements, but becoming a polite "yes-man" who would give those above him no trouble. Of course he became browbeaten, morose, and disinterested; his foundations have been knocked from under him. His self-respect and independence were slowly but steadily lost. He learnt that an outward show was more important and insisted upon than the courage to criticize and uphold the views in which he believed.

This state of affairs, although not true in every individual case, was sadly observable over the greater part of the system. I fear, as the bureaucratic machine after a few years really commences to get under way, a similar deplorable falling off of efficiency will be painfully manifest. What are the safeguards? The only ones possible are to allow as much individual freedom for the doctors as possible and also to confirm now their right to criticize their own organization and publish their scientific work exactly as they do to-day.

We all look forward to increased efficiency—let us not be blinded by the "nation-size" of the organization being the *sine qua non* of progress. The system to-day resulted from years of practical trial—it works well and harmoniously. Let us hope that the new method at least does not produce a retrogressive step. The Services have sounded the warning!—I am, etc.,

London, W.5. J. J. SHIPMAN.

National Health Service

SIR,—It is a pity that the antagonists of the B.M.A.'s policy produce letters which are inaccurate and misleading. Dr. S. Gilford's letter (Jan. 31, p. 222) concerning a meeting of doctors practising in "Fleet and the surrounding district" is a case in point. This was a private meeting of G.P.s practising in a rural area. Six of the eight signatories recently left the Services and none of them lives within six miles of Basingstoke, where Dr. Gilford states two practise. He also brings in Farnham and Camberley. Heaven alone knows why. These towns are in another county.

As regards the doctors in Basingstoke, Farnborough, Aldershot, and Fleet: a meeting open to all doctors in the Aldershot and Basingstoke Division of the B.M.A. was held on Jan. 14, 1948, where it was unanimously decided not to accept service under the Act in its present form. So much for the militant minority.

Dr. Gilford started in practice 44 years ago. He has seen and helped medicine to evolve slowly. Yet now he wants the whole doctor–patient relationship turned upside down overnight. His allegiance was to his patients : now it will be to the State. I am sure his patients will appreciate that. It is an extraordinary thing that a man of Dr. Gilford's obvious great talents should be so blind that he cannot see the ghastly danger ahead of doctors and patients alike. Call it what you will. It is dictatorship pure and unadulterated, with the loss of that precious freedom for which so many gallant young men and women fought and gave their lives all over the world. The B.M.A. and the Negotiating Committee have given us a lead. It is up to us all to support them.—I am, etc.,

Hook, Hants. R. H. SCOTT.

SIR,—Basic salary.—The doctor receiving a basic salary is a State-salaried employee and must carry out any duties assigned to him in the way indicated. The salaried servant is not a free man. The basic salary as an attraction to under-doctored areas would be unnecessary if a supplementary capitation bonus—an addition to the general capitation fee—was paid in such areas. (This method could also be used to help rural practitioners.) The basic salary for newly qualified general practitioners would be inessential if the buying and selling of practices was permitted, enabling them to earn a reasonable net income in their early days.

Goodwill of practice.—If the State owned the goodwill of the doctor's practice the State and not the doctor would say how that practice was to be run. The doctor would have lost his freedom. Direction would have been made easy.

Direction.—Negative direction when there are many under-doctored and few over-doctored areas becomes positive direction when there are few under-doctored and many over-doctored areas—and a great increase in the number of doctors is envisaged.—I am, etc.,

Newcastle-upon-Tyne. WM. HUNTER.

Distribution of Doctors

SIR,—If a statement is repeated sufficiently often it is apt to be regarded as a fact. Dr. Charles R. Palmer (Feb. 7, p. 271) has repeated the statement made in Parliament and in the Press when he writes : "It is obvious that one cannot receive money from public funds whether by capitation fee or salary for practising where there is not a public need. It is not just to expect it." As I understand it the G.P. neither wants nor expects to receive public money except for services rendered or definite tasks undertaken. This is quite a different situation to that put up by supporters of the Act and so easily demolished, a very elementary form of debate.

Surely the statement should be : "Every general practitioner should have the right to sell his skill where he pleases and as a natural corollary be paid only for the work he undertakes to do (i.e., capitation fee)." If every G.P. elected to practise in Worthing the capitation fees per doctor would be very few and in many cases *nil*. This in itself would solve the problem of distribution.—I am, etc.,

Hove, Sussex. H. J. MCCURRICH.

Newly Qualified Doctor in N.H.S.

SIR,—There have recently been complaints from newly qualified doctors that under existing conditions their initial salaries are low. I should like to point out that under the proposed Health Act the initial salary for any doctor is £300 per annum. The capitation fee for any patient only commences after that patient has registered with a doctor, and there appears to be no certainty that a doctor's patient will be transferred to his successor automatically.

In the event of the death or retirement of a doctor practising under the Health Service, what method is there of conveying this fact to the patient? What inducement is there for the patient to register with his doctor's successor until he is actually ill and in need of medical assistance, which may be many years later?—I am, etc.,

St. Albans, Herts. PHYLLIS F. L. DAPLYN.

The Temporarily Registered Practitioner

SIR,—It has come to our knowledge that doctors on the temporary register should vote on a special coloured paper. We feel indignant that we should be earmarked as a special group, and especially as we are called blacklegs in the general and medical press. We should like to point out that we have all served this country during wartime in H.M. Forces or in civilian capacity. Most of us are already British subjects and feel strongly about being called displaced persons. The number of 3,000 temporary registered doctors is an exaggeration ; most of this original number were in this country with the Allied Forces during the war only ; others have emigrated or are too old to start practice again. According to the estimation of the Ministry of Health the number would be no more than 1,500 and of the B.M.A. perhaps about 1,000. To anticipate the result of the plebiscite by calling us blacklegs would only serve to impair our good relations with the rest of the profession. We are feeling indignant over the frivolous attack on us in the press, even in some medical meetings, and think this amounts to a kind of intimidation. In spite of this attempted intimidation we have advised the doctors of our association that each of them should exercise his right to vote as he thinks fit, guided only by his conscience and his conviction in the light of past experience.—I am, etc.,

M. BERGENTHAL,
Chairman, Association of Refugee Doctors from Germany in Great Britain.

London, N.W.11.

Questions in Parliament

SIR,—The *Spectator* (Feb. 6) draws attention to the Socialist Government's dictum through the Minister of Transport that after nationalization it is not legitimate for a Member of the House of Commons to put questions of detail to the Minister. Will the Negotiating Committee secure a definite clause in the Act ensuring for the medical profession that this democratic right of appeal is safeguarded before it finally commits itself to acceptance of service?—I am, etc.,

St. Mawes, Cornwall. J. N. WHEELER.

Intimidation

SIR,—Mr. Bevan complains of the possibility of intimidation by the B.M.A. with regard to the plebiscite. I think he is about the last person who should take up this attitude. His own Act contains as good an example of intimidation as can be imagined. I refer, of course, to the condition that there will be no compensation if one fails to join the scheme by the appointed day. This seems to be no less than an attempt at compulsion in spite of the contention that participation is entirely voluntary.

Doctors should be free to enter at any time *after* the appointed day without loss of compensation. If the scheme is attractive enough, a sufficient number will be forthcoming. I hope that when the Act comes to be amended we will see to it that it is made so attractive that doctors and patients alike will be anxious to join, and that intimidation in any form will be unnecessary.—I am, etc.,

Musselburgh, Midlothian. JAMES SHARP.

SIR,—The dispute is not altogether devoid of humour : for instance, the accusation that the B.M.A. might intimidate doctors in the plebiscite made by Mr. Bevan in the House of Commons. Isn't that the place where they have party whips to ensure that Members vote according to party doctrine? And wasn't he the Minister who introduced the vicious clause about no compensation for those who enter after the appointed day?—I am, etc.,

Penn, Bucks. JAMES SMIBERT.

Political Selection

SIR,—Recently I applied for an appointment with a certain nationalized industry, and was granted an interview. The selection board consisted of three men, one of whom was a doctor. The doctor asked me the usual questions and was perfectly helpful and understanding. But imagine my surprise and inward fury when one of the laymen asked me my views on nationalization! No doubt my evasive answer did not

influence their rejection of me for the appointment, but surely a political means test is an unwarrantable method of trying to assess a medical candidate for a purely medical post.—I am, etc.,

Stockport. W. E. BROUGHTON.

Mutual Confidence

SIR,—We read with interest the letter of Dr. N. J. P. Hewlings (Feb. 7, p. 269). We heartily agree with his views and feel sure that the big fear of all G.P.s *re* the future N.H.S. is that we cannot be sure how many of our colleagues will refuse to sign when the allotted day comes to join the Service. Dr. Hewlings's suggestions are very good, but we feel that they do not go far enough. We would like to suggest that when the time comes for signing the contract with Mr. Bevan—we presume there will be some form of contract—all medical men in all areas should meet, as we do for local B.M.A. meetings, and in the presence of each other join the Service or refuse to do so as they feel justified.

We—and I am sure many other doctors—having given a good number of years to the Forces, are just beginning to find our feet, and we feel that we dare not risk the possible loss of capital involved in the value of our practice or the compensation. Mr. Bevan's strongest weapon is the fact that we lose all claim to compensation if we do not sign on the appointed day, and the only way for us to fight this weapon is for us all to publicly refuse service. By this means we will all be sure that we have sufficient backing to fight for better conditions. Our neighbours will not join for fear we have and we will not be forced to for fear our neighbours have.—I am, etc.,

J. H. BEGG.
Wroughton, Wilts. A. S. CAMERON.

SIR,—We think that the main issues of the controversy between Mr. Bevan and the medical profession are now clarifying. To us it appears that it is no longer a battle of the rights and wrongs of the scheme : it is essentially a battle of morale, for it is obvious that the vast majority of the profession are against the scheme. As we see it, unless some radical change occurs, the profession will vote 90% against the plebiscite and equally will vote 90% for the scheme in July. What is the reason for this ? To put it in a nutshell, the individual practitioner would vote against the scheme if he thought his colleagues would do the same, but unless he has faith in the integrity of his colleagues he will in the last resort vote for it. We suggest that some more binding arrangement should be made. In each area a document should be drawn up in which the local doctors solemnly pledge themselves to vote against the scheme. This document should be witnessed by independent persons and should be regarded as an absolutely sacred undertaking. There might be an escape clause releasing the signatories of the document from their pledge if less than 85% of the profession agree to do likewise. This should do away with these apprehensive people who wish to sit on the fence and who will at the last prejudice the opposition to the scheme. A list of those who sign these documents should be publicly displayed in the areas concerned and a copy sent to the B.M.A.

We feel that nothing less than the most energetic measures will meet the situation. The moral fibre of the country is not good, and to this the medical profession is no exception, for unless immediate action is taken to unite the profession, irrespective of the results of the plebiscite, Mr. Bevan's intimidatory tactics of divide and conquer will inevitably succeed. If the profession fails to rekindle the spirit of its ancestors, we are lost.

It may appear patronizing for young men who are not yet in the difficult position of most doctors with families to write in this fashion, but unless we are prepared to take risks we shall be in Mr. Bevan's parlour, and another bastion of liberty will have been taken. We do not wish to imply that we think the present state of affairs is perfect, but, as we have been at pains to point out, this is not the question. To put it vulgarly, it is "guts" that is needed.—We are, etc.,

J. W. MACLEOD.
D. H. H. WALFORD.
London, W.2. JOHN S. PRATT.

The Moral Issue

SIR,—A medical man in his professional capacity has and can have only one loyalty, and that towards his patient. By the law of nature and the recognized code of medical ethics Christian as well as pagan, the doctor is bound to seek the welfare of his patient by all the means within his power exclusive of every other consideration. From time immemorial the Hippocratic Oath (*Encyclopaedia Britannica*, 14th ed., vol. 15, p. 198b) makes every medical man promise : "The regimen I adopt shall be for the benefit of my patients, according to my ability and judgment, and not for their hurt, or any wrong. I will give no deadly drug to any, though it be asked of me, nor will I counsel such. . . . Whatever home I enter . . . I will keep silence thereon, counting such things as *sacred secrets*."

It is quite clear to the medical profession that Mr. Bevan in the N.H.S. Act, 1946, shows himself jealous of this relationship. The preliminary draft of the National Insurance (Unemployment and Sickness Benefit) Regulations, 1948, newly made under the N.I. Act, 1946, for unemployment and sickness benefits, requires the insured person to "answer any reasonable inquiries by the Minister or his officers as to the advice given him by the medical practitioner," under pain of forfeiture of his sickness benefit. The Ministry of National Insurance betray suspicion of both doctor and patient ; in effect it will amount to sowing distrust between patient and doctor.

Mr. Bevan by the N.H.S. Act wants to assume *absolute* power over every doctor and surgeon in the land, and *absolute* mastery over every hospital and nursing institution he may at any time wish to seize. The N.I. Act regulations prepare the way to coerce doctor and patient to reveal to them and the whole hierarchy of officials the "sacred secrets" which no doctor may tell and no human being may be compelled to reveal—except where there is a danger to the patient himself (e.g., in case of lunacy) or to the community (as in contagious disease). Apart from this, no man has or can be given any authority to know such "sacred secrets." Both the N.H.S. Act, 1946, and the draft regulation under the N.I. Act, 1946, as they stand are therefore immoral. To carry out his obligations towards his patients, the doctor must be free from all interference from "higher authority" (including the paymaster, who regulates even the qualities of the medicines to be used), and the patient must have the right and the real opportunity to choose his own doctor whom he can trust implicitly.—I am, etc.,

Liverpool. THOMAS J. AGIUS, S.J.

Manipulation in a State Service

SIR,—When the time comes for the State to assume financial responsibility for all medical care, official provision will have to be made for, among others, patients requiring manipulation —the only branch of therapy suitable for delegation to medical auxiliaries as yet unprovided for. The number of doctors practising this art is so small that they cannot themselves deal with more than a fraction of all such cases. Indeed, there are said to exist, outside the medical and physiotherapy profession, some 3,000 persons in this country earning their living by giving manipulative treatment of one sort or another. This provides some measure of the amount of work done ; for, though a good deal of it may be done unnecessarily, this does not apply to all of it, as results prove. Since patients will be paying the State to defray the cost of all medical treatment they obviously cannot be asked to pay all over again for manipulation performed by unqualified persons outside the Service.

Grave danger may arise of the State being compelled by public demand to enrol and recognize irregular practitioners unless an alternative body exists to whom this work can be properly delegated. By virtue of their ethical stand and whole-hearted collaboration with the medical profession the State will naturally turn to chartered physiotherapists to meet this demand. And the physiotherapists must close this gap, otherwise others exist only too ready to rush in to fill it.

It is thus imperative, in my view, that no time should be lost in teaching manipulative technique to physiotherapy students. The subject is in fact included in the syllabus, but is dealt with very cursorily at present at most schools. Indeed, before the war almost the only systematic teaching was that of Dr. Menne

at St. Thomas's Hospital. May I urge all surgeons working at hospitals with physiotherapy training schools, and all medical officers of physiotherapy departments, to institute as a matter of urgency wider teaching on this important subject?—I am, etc.,

London, W.1. J. H. CYRIAX.

Rationing and Tuberculosis

SIR,—I heartily agree with Dr. Keers's observations (Feb. 7, p. 245) that during the years of rationed foodstuff sanatorium patients have been regaining their lost body weight at a much slower rate than comparable groups of patients did before the war, and I find too that clinically this slowing is accompanied by a slowing in the healing process, as evidenced by less rapid improvement in their sedimentin indices. I disagree with him, however, that there is any evidence that curtailment of meat and cheese are especially to blame.

It is illuminating to compare the performances of the average patient at Mundesley with those of the average patient at Tor-na-Dee over the same years. Columns 2 and 3 in the table below are the average gains in pounds of body weight during each twelve months in question (calculated in the manner described in Dr. Keers's article):

	Average Gain lb. (kg.)	
	Mundesley	Tor-na-Dee
1937	16·0 (7·26)	average 8·12 (4·08)
1938	16·2 (7·35)	
1939	20·3 (9·2)	
1940	5·7 (2·58)	6 (2·72)
1941*	11·8 (5·35)	1 (0·45)
1942*	15·8 (7·17)	10·5 (4·76)†
1943*	13·3 (6·03)	2 (0·9)
1944*	11·0 (4·99)	5 (2·27)
1945*	7·4 (3·34)	−1 (0·45)
1946	1·3 (0·59)	−½ (0·22)
1947	11·2 (5·08)	?

* Years of extra sugar at Mundesley. † Year of extra fats at Tor-na-Dee.

It will be observed: (*a*) Since food rationing began, patients at neither sanatorium have shown their expected pre-war rate of body-weight regain. (*b*) In 1940 both institutions showed a significant drop in the rate immediately following the onset of rationing. In 1940 I found that newly admitted Mundesley patients on wartime diet were on an average only 2½ lb. (1.13 kg.) heavier at the end of their first six months. (*c*) At Mundesley from 1941 to 1945, thanks to the Medical Research Council, each patient was allowed an extra "experimental" 4 lb. (1.8 kg.) of sugar per week. This was taken by all patients in a fruit-flavoured drink between meals and supplied an additional 1,000 calories per diem over and above the ordinary diet. During this period I found that newly admitted patients on this regime regained their lost body weight at the same rate as pre-war new patients for the first two months (i.e., 1.6 lb. (0.73 kg.) per month), but fell off thereafter so that at the end of the first six months the "war diet plus sugar" patient was only 7 lb. (3.17 kg.) heavier whereas his "pre-war diet" counterpart had been 10½ lb. (4.76 kg.) heavier. (*d*) In 1942 arrangements were made for Tor-na-Dee Sanatorium to run a similar dietetic experiment with a special group of patients receiving an additional 1,000 calories per diem of *fats* instead of sugar. (*e*) In 1946 Mundesley was back on ordinary civilian diet (with of course the extra 2 pints (1.14 l.) of milk a day accorded to the tuberculous). Once again the drop in rate is significant.

I have three comments to make: (1) I agree with Dr. Keers that after each fresh "cut" in any commodity the rate of weight-increase fell badly for a month or two until patients accustomed themselves to make good with alternative foodstuffs.

(2) There is one inconstant factor, it must be emphasized, which tends to invalidate equally both Dr. Keers's results and mine—if viewed separately—and one which has hitherto deterred me from publishing my results until I could find a "control" series of figures which would be similarly influenced by this factor: and that factor—oddly enough—is the varying delay between diagnosis and admission to sanatoria. Since the beginning of the war this delay has grown from a matter of a very few weeks to peaks of five and six months before settling down to its present three to four months. While awaiting admission, usually in bed at home (where they are treated with all the family tit-bits), patients often regain a large proportion of their lost body weight. Consequently by the time they are admitted many are nearly back to their normal weight—a few are even over-weight—and they cannot be expected to put on weight anything like so rapidly as did their pre-war counterparts, who would have been admitted within a week or two of diagnosis when their body weight was lowest. The patient who is one stone below par regains his first half stone much quicker than he does his last seven pounds.

(3) Dr. Keers's figures have confirmed my belief expressed elsewhere (*Tubercle*, 1942, **23**, 10) that it is calories that count in combating tuberculosis and that the caloric value of the present civilian diet is inadequate for the tuberculous. I have gone so far as to hazard that the average daily requirement of the tuberculous patient is more than 2,500 calories. The best form in which additional calories should be administered is still an open question. Dr. Keers found that extra fats caused nausea (*Tubercle*, 1943, **24**, 8): few patients could go on taking them indefinitely. I found that sugar drinks could be imbibed without detriment to appetite or the capacity to enjoy full meals. Unfortunately at no time has there been a third experiment involving an extra 1,000 calories per diem in protein form; but there is still time so long as rationing remains with us.

It would be interesting to learn the experiences of any other sanatorium superintendents who hold the weighing machine in as high esteem as Dr. Keers and I do.—I am, etc.,

The Mundesley Sanatorium, Norfolk. GEORGE DAY.

Smallpox in Edinburgh, 1942

SIR,—Dr. C. Simpson Smith, in his paper on "Smallpox in Staffordshire, 1947" (Jan. 24, p. 139), states that "once again an outbreak of smallpox followed a confident diagnosis of chicken-pox by competent experts" and follows by mentioning four other outbreaks in which the same sequence of events occurred, including the Edinburgh outbreak of 1942. As far as Edinburgh is concerned he is completely in error, and the reference he gives (*B.M.J.*, 1944, **2**, 54) does not say so. The first patient coming to our notice was in cell isolation on admission to the City Hospital, and, though his rash had much in common with chicken-pox, there were certain elements which aroused our suspicions, and within two hours he was installed in the special smallpox isolation which had been earmarked for first cases in an outbreak. It is true that the above reference mentions that it was not till the rash of the patient was fully out that a confident diagnosis of smallpox could be made, but as he had been securely isolated from his arrival in hospital there never was the slightest suggestion that he infected others or initiated the outbreak. Furthermore, again quoting the reference given by Dr. Smith (a condensed version of a report I gave to the Fever Group of the M.O.H. Society), it is stated that the Edinburgh cases fell into two groups: (1) 23 institutional cases and (2) 13 city cases, of which five were direct contacts of other city cases. The source of infection of the institutional cases was never disclosed, nor was the association of these with the city cases, or of the primary city cases with each other.—I am, etc.,

City Hospital, Edinburgh. ALEXANDER JOE.

The Training of Specialists

SIR,—Sir Francis Fraser's masterly paper on the training of specialists (Jan. 24, p. 135) and the plan proposed are probably the fruit of years of careful thought and study, and it is only with great humility that one points out the dangers of the combination of rigid specialist training and the State-owned hospital. It is true that seven years of strict and orderly training will make the young specialist ready for responsible appointment sooner than the present haphazard system prevailing in this country, but, unfortunately all too often, there will be no job waiting for him when he finishes, and the period of waiting will creep on to ten, fifteen, or even twenty years, and an agreeable apprenticeship becomes an unhappy servitude.

The reason for this is not far to seek: the State-controlled hospital, unlike the E.M.S. hospital, *must* be economically run, and as regards medical staff this is done by reducing the chiefs

of departments (hereafter called professors) to the minimum and paying them only enough (£300 per annum) to make them manageable. In return they are given a monopoly of private practice, hundreds of beds, and numerous registrars (I have seen as many as 30) to do the work of the hospital beds. The whole-time registrars are promoted at various stages, but their maximum salary seldom exceeds £300 because they are in training and living on their hopes. It is wrong to say that this military type of organization is peculiar to Germany; it is a fault of the system and not the national temperament, and it has grown up in Scandinavian, Slav, and Latin countries and does not seem to depend upon the financial condition of the country.

Furthermore, I do not think Sir Francis Fraser can hope for our present whole-time professor system to be extended to provide more specialist appointments. These posts have been disappointing; their holders have been distracted from their work by the examining bodies, committee work, country homes, a five-day week, and finally a sabbatical year of absence in every seven. The Universities may put up with this, but the Treasury will never resist the temptation of paying their professors out of private practice.

It really comes back to simple mathematics—if there are few chiefs and lots of pupils, there will be no outlet for the pupils till their lives are well spent and their spirits broken. It would be better to continue our present system which allows early access to private practice while training is still going on. It is not a bad system, being very flexible; the man who neglects his training is soon found out, and the brilliant man like Arthur Hurst or Paul Rouquette is quickly recognized, rewarded, and given his head. Our present method never provides the sad spectacle of the "pupil" of 40 standing like a ramrod because the "Sehr geehrte Herr Professor" is in the room.—I am, etc.,

London, W.1. A. DICKSON WRIGHT.

Specialties of Postgraduate Teaching

SIR,—I have read the interesting article by Sir Francis Fraser (Jan. 24, p. 135), but I am still left in doubt and indecision as to what he regards as the complete field of the specialist. He has from time to time stated quite clearly that in his view he only regards proctology as a branch of surgery and proceeds to ignore it as a special subject. In connexion with that apparently simple operation for haemorrhoids, which can so easily go amiss in the wrong hands, might I inquire if and when the time comes that surgical aid may have to be called to deal with these small venous protrusions of the rectum would Sir Francis Fraser commit himself to the care of a fully competent and experienced surgeon in diseases of the rectum, or relegate the rest of his life passing rectal dilators keeping open the stenosed rectum left as a legacy from the carpentry of the inexperienced general surgeon? I have seen the latter occur time and again, even where the general surgeon was experienced and well known.

Further, how does Sir Francis Fraser reconcile the reasoning that he contends, as I believe he does, that because most, if not all, surgeons practising proctology also do general surgery, therefore diseases of the rectum should only be regarded as a branch of surgery? Could Sir Francis Fraser enumerate in Great Britain how many physicians are engaged in the specialty of diseases of the chest, and also devote their lives to the thorax only, or how many physicians engaged in child health, neurology, or cardiology have ceased to practise in other spheres of general medicine, but also how many practise both?

In my own sphere of radiology of the colon time and time again I have had to reconstruct the radiological diagnosis from one of malignancy to diverticulosis, *vice versa*, or other modification in some of these cases that have caused difficulty and serious thought for even those of established experience and skill in *x*-ray work; and these cases come from all over the world. Might I again quote that old and true axiom that one man doing one job all the time can usually do it better than he who undertakes all kinds of work, and I suggest Sir Francis Fraser might tarry a moment to ponder if he is doing the profession and mankind generally a service in trying to exclude proctology from the list of specialties, even under a State medical service.—I am, etc.,

London, W.1. NORMAN P. HENDERSON.

A Misleading Antithesis

SIR,—I would like to draw the attention of your readers, especially of those who write on or teach clinical pathology, to certain cliché-mongers. They are the inventors and the perpetuators of the misleading but specious antithesis—hyperglycaemic and hypoglycaemic coma. Hyperglycaemia cannot cause coma, except possibly by intravenous introduction of crude molasses. The term, however, perpetually misleads unfortunate students. If sugar is described as poisonous it may well be withheld in the insulin treatment of diabetic coma. This has by now probably killed more than one patient. Since this type of death cannot be brought home to the cliché-mongers aforesaid, the least they can do is to overcome their regrettable partiality to such verbiage.—I am, etc.,

Queen Square, London, W.C.1. GEOFFREY BOURNE.

The Fuchsin Treatment of Cholera

SIR,—The fuchsin treatment of cholera consists in giving to the patient in the very first stage of the disease—in which as a rule diarrhoea is present but vomiting is absent—basic fuchsin 0.2 g. in cachet, soft gelatin capsule, or easily disintegrating pill, every 15 minutes until a total of 1.6–2 g. or more has been administered. This method of treatment has in reality never been tried in practice except in three sporadic cases many years ago, which all recovered. It might perhaps be worth while trying it on a fairly large scale at the present time when the disease appears to have a tendency to spread from its endemic areas, and considering also that, notwithstanding some progress made, the treatment of cholera is still unsatisfactory. Naturally with it should be associated all the usual general measures which have been found of benefit in the disease and especially saline and plasma injections.

The rationale of the treatment is as follows. In cholera, in the first stages, the vibrios do not invade the mucosa, but multiply in enormous numbers in the lumen of the intestine. If we possessed an antiseptic that could be given by mouth and was not injurious, it should be possible to attack, and devitalize or kill, a great number of the germs before their toxins are absorbed—whether exotoxins, which are apparently of little importance, or endotoxins liberated by the disintegration of the germs. For years I have thought that basic fuchsin might possibly represent the solution of the problem. It is not a strong general antiseptic, but has a fairly powerful action on *Vibrio cholerae*. In recent investigations it was found that a watery solution of basic fuchsin, 1:1,000, would kill the cholera vibrio and that much weaker solutions had an evident bacteriostatic action. It was also found that basic fuchsin retains its bactericidal and bacteriostatic power on *V. cholerae* when dissolved in liquids containing pepsin and other enzymes and in liquids containing proteins. The fuchsin, as observed by myself, apparently devitalizes and kills the organisms by staining and fixing them without any disintegration taking place, and therefore endotoxins probably should not be able to be set free.

With regard to the toxicity of basic fuchsin, research (unpublished) carried out in 1933–4 on rabbits and other laboratory animals showed that it was very low. In rabbits, to which it was given in 1/2 g. doses, the only phenomena noted were a severe constipation and at times colouring of the urine.

In men, we gave it to several patients with chronic colitis of varying origin, chiefly amoebic and bacterial. The dosage was 1–2 g. daily, divided into 5–10 doses. No very striking improvement followed, but toxic symptoms were not noted. We gave it also to three normal individuals without any untoward effect. The urine became coloured red.—I am, etc.,

Lisbon Institute for Tropical Diseases, Portugal. A. CASTELLANI.

Cholera

SIR,—We have read the annotation on cholera in the *Journal* of Oct. 18, 1947 (p. 619). We would like to amplify the information and correct certain inaccuracies that have crept in. It is stated that "outbreaks of cholera involving some thousands of cases have also been reported from the East Punjab and Delhi." In Delhi, up to Nov. 1, 1947, 425 cases of suspected cholera were admitted into hospitals in the city from refugee camps. There were only three cases of cholera reported from Delhi Province during the whole period, apart from cases

among the refugees. Under the conditions prevailing at that time it was not possible to investigate each case in detail. The stools of twenty of these cases, however, were examined and in only one case was *V. cholerae* isolated. Taking into consideration the general health of the refugees and conditions prevailing in the camps it is more than likely that the majority of the suspected cholera cases were in fact cases of acute gastro-enteritis. Nevertheless the segregation of all patients suffering from diarrhoea and vomiting was carried out as far as possible.

In the whole of East Punjab, where about nine million people were involved in the exchange of population between the two dominions, 5,432 cases of suspected cholera were reported up to Nov. 1, 1947.

You further state that "both India and Egypt have had to be helped with supplies of vaccine." While offers of vaccine were certainly made to the Government of India from various countries, for which we are indeed grateful, the supply of cholera vaccine manufactured in the various institutes in India was more than sufficient to meet the demand of this country. Not only that, but the Government of India were able to supply 3,140,000 ml. of cholera vaccine to the Government of Pakistan, and 3,000,000 ml. to Egypt, the latter consignment being flown from Bombay to Cairo.—I am, etc.,

Office of the Director-General of Health Services, Government of India, New Delhi. N. JUNGALWALLA. Major.

Morbidity Associated with the Induction of Labour

SIR,—In the *Journal* of Nov. 8, 1947 (p. 738), you published an annotation on the results of induction of labour, quoting a morbidity rate in mothers and infants of 25%. These results are so completely at variance with my own experience of induction that I should like to say a few words on the subject.

In articles written by obstetricians in recent years and at meetings of associations references to induction are frequent, but it is clear that no unanimity has yet been reached as to which method is best. In my own practice I now have records of induction in over 700 cases without any ill effects that could in any way be attributed to the induction in either mother or child. I have used induction for all the usual conditions, such as toxaemia, disproportion, and postmaturity, as well as for mere convenience in patients coming from a distance. I have used it at different stages of pregnancy from 33 weeks onwards, and with unfailing success.

The method used is that of preliminary medicinal induction (castor oil, quinine, etc.), followed immediately by artificial rupture of the membranes at the internal os with curved artery forceps or the special catheter obtainable for the purpose. Labour comes on usually within 2–3 hours but may be delayed for a day or two in exceptional cases. I obtain as free a flow as possible and, if necessary, when the head is deeply engaged I push it up to permit the escape of fluid at the time of rupture.

No anaesthetic is required even in primipara except where there is undue rigidity or spasm of the vagina in a nervous subject. This applies to not more than one case in forty (primipara only). The average time of labour is less than those normally delivered. Since the instrument is never passed further than the tip of the finger by which the cervix is first dilated, no damage can be done to the cervix, the uterus, or the baby.

If there are good reasons for using any other method of induction I should be most interested to hear of them.—I am, etc.,

Trinidad, B.W.I. M. SCHWARTZ.

Natural Position for Childbirth

SIR,—I was greatly interested in Dr. Kathleen Vaughan's letter (Jan. 31, p. 222). Some time ago I was called to attend a confinement in a gipsy encampment on the roadside. The parturient woman was housed in a makeshift tent composed of a few lengths of canvas stretched over a flimsy wooden framework. The patient was well on in her labour, and a short time previously had been going about her duties, drawing water, chopping sticks, etc., until her pains had become too strong to continue doing so. She had taken up a squatting position in the tent, and informed me that she was most comfortable "sitting on her hunkers." Just before the child was born she was supported on each side by two of the women. There was no difficulty in delivery of the baby, and the placenta followed shortly afterwards. On inquiry, the woman informed me that she had had five other children—all born in the squatting position. Several other married women in the encampment told me that this position was adopted amongst them during childbirth as it seemed the "most natural-like."—I am, etc.,

Portadown, N. Ireland. W. A. GREER HEATLEY.

Herpes Zoster and Varicella

SIR,—The association of herpes zoster and varicella in the same patient is uncommon. In a comprehensive review of the literature up to 1939, Ferriman (1939) analysed 98 cases. He came to the conclusion that the condition is most common in elderly men, and that the appearance of the varicella usually follows the zoster in five days. The appearance of varicella or herpes in contacts was noted by Kanof and Baer (1939), who described a case where the daughter of a man of 65 developed varicella six weeks after her father's initial herpes lesion. Almeyda (1942) described a case of a woman of 42 who developed herpes and, four days later, varicella. Her daughters, aged 13, 20, and 11, all developed varicella. The woman who worked in this household acted as a carrier, and conveyed the virus to her husband. He developed both diseases and died after a haematemesis. More recently Allen (1944) and Manning (1944) reported cases of a child of 5½ and a man of 63 who showed both diseases.

We therefore feel justified in recording the appearance of both diseases in a man of 65 and the development of varicella in an adult contact.

A man of 65, with no previous history of chicken-pox or herpes, first complained of pain in the left side of the chest on Nov. 27, 1947. Eight days later (Dec. 5) he developed a herpes eruption, but on the right side of the chest and the ulnar side of the right arm. The eruption corresponded to the distribution of C 8, Th 1, 2, 3, 4, 5. Two days later he noticed a few "spots" on the forehead. Examination showed a typical varicella eruption on the face and trunk. Twelve days later (Dec. 19) his daughter, aged 24, developed a varicella eruption on the face, trunk, and arms. She also had no previous history of varicella or herpes. At the time of writing (Jan. 7, 1948) the man has post-herpetic neuralgia, particularly in the arm. The skin surface is now unbroken. The daughter shows no fresh vesicles.

For this case of herpes we have used the method of treatment described by Gross (1947). This consists of the application of the following paint three times a day:

℞

Aneurin hydrochloride (50 mg. per ml.) 1 ml.
Glycerin .. .. 3 ml.

So far we have treated about a dozen cases by this method and in our opinion the results claimed by Gross are justified. There is a diminution of pain when the paint is applied and the vesicles dry more rapidly than with collodion.—We are, etc.,

Middlesbrough. J. W. L. DICKSON. G. BLAIR.

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Treatment of Rheumatoid Arthritis

SIR,—Dr. Imre Barsi (Jan. 31, p. 227) brings up again the question of treating rheumatoid arthritis by transfusion with blood from pregnant women. He dismisses, in my opinion rightly, the possibility that hormonal factors are responsible for the alleged improvement, but fails to find a definite explanation. May I suggest that the beneficial effect of this "new" form of therapy is based on three factors?

(1) It follows the line of treatment practised by rheumatologists for over twenty years as autohaemotherapy, which consists of withdrawing a suitable amount of blood from the patient (generally 5–10 ml.) and immediately injecting it intramuscularly. This method represents without doubt the mildest, yet a most effective, form of protein shock. In the course of several hundreds of such injections I have observed only very rarely an even transitory rise in body temperature. Nor have I found such a rise a necessary accompaniment of therapeutic efficiency.

(2) Having been strongly impressed by the fact that patients suffering from rheumatoid arthritis as a rule show a considerable

spontaneous improvement during the summer months, or when transferred from a harsh to a mild and sunny climate, I myself tried to evaluate the possible biochemical effects of sunshine in such cases, and came to the conclusion that the increased calcium metabolism—i.e., a higher calcium level of the blood produced by the sunshine—is probably playing a certain role in this beneficial effect. Ever since then I have combined the autohaemotherapy with intravenous calcium injections, with gratifying results in every case. As is well known, the calcium metabolism is considerably increased during pregnancy, with a resultant higher calcium content in the blood, and it is difficult not to see the parallel.

(3) It is now twenty years since I drew attention in the *Journal* (1928, 1, 493) to the great importance of proper and systematic treatment of the general debility invariably present in advanced cases of rheumatoid arthritis, which manifests itself by great somatic weakness, loss of weight, and progressive anaemia. I have witnessed on countless occasions a marked and lasting improvement following treatment aimed directly at raising the general resistance. To my mind there is little doubt that the main effect of Barsi's transfusion is due to an amelioration of the patient's anaemia.

The simplicity, effectiveness, and time-proven value of autohaemotherapy, combined with intravenous calcium injections and with orthodox treatment for anaemia and general debility (vitamins, iron tonics, and the rest, and occasionally in very bad cases an ordinary blood transfusion), compare most favourably with Barsi's treatment and make it doubtful whether his therapy is ever justifiable, especially as the repeated taking of blood from a pregnant woman is hardly a matter to be lightly undertaken.

Having treated rheumatic patients for nearly thirty years I consider it somewhat rash to proclaim patients "completely cured" after periods of observation ranging from two months to five years. One often sees even in apparently hopeless cases a remission from symptoms occurring occasionally with dramatic suddenness and lasting sometimes for several years—only to be followed later by a complete setback. Similarly, the rheumatologist will not infrequently encounter a patient suffering from rheumatoid arthritis which is made definitely much worse just by reason of her pregnancy.—I am, etc.,

Linby, Notts. L. SCHMIDT.

Localization of Deep Pain

SIR,—In his paper on "Localization of Deep Pain" (Jan. 31, p. 188) Dr. J. B. Harman propounds a theory of perception which throws light on a clinical experience which is as puzzling as it is common in medical practice among Africans in Central Africa. I refer to the patient who, on being asked of what he complains, touches his elbows, then his wrists, then his knees, then his ankles, often without uttering a word. That is the sum total of symptomatology on which a diagnosis has to be made. Frequent experience of such cases has led to the conclusion that the patient is indicating that he suffers from something that makes his whole body feel weak and ache, such as malaria, leprosy, tuberculosis. But it has remained a puzzle why the joints of the limbs should be picked out in this way, when a short examination shows nothing abnormal in them.

The suggestion of Dr. Harman makes a reasonable and highly probable answer to this problem when he states, with reference to the conception that a person has of his own body (the body image), that "an individual has a clearer consciousness . . . of his limbs than his trunk, and . . . of the joints than the segments between."

The sick African, then, who points mutely to the joints of his limbs as being where he feels ill is corroborating this proposition. Conversely, the proposition corroborates the clinical experience that patients who present themselves in this way are trying to express that they feel ill all over.—I am, etc.,

Grimsby. E. W. PRICE.

Curare

SIR,—The administration of intrahepatic curare described by Mr. G. O. Jelly (Feb. 7, p. 276) has at least the advantage of originality, although it is difficult to find any other recommendations for this bizarre route. However harmless he considers the injection the introduction of any drug into an organ, however vascular, cannot be so effective as its direct injection into a vein. The veins of the foot are convenient for the administration of drugs during abdominal operations, their use avoiding "the disturbance of towels and the discomfiture" of even the most testy surgeon. As for the "administrative difficulties" of intravenous work, these should not present themselves to the experienced anaesthetist. Further, there appear to be no grounds for assuming the presence of an intravenous needle is inadvisable, even if left *in situ* during the operation, while it seems hardly fair to the patient if one includes "nuisance value" to the surgeon among the contraindications to intravenous infusion.

I would consider 2–3 minutes rather long for the appearance of the full effect from an intravenous dose of curare, and I inject the drug about a minute before the peritoneum is to be incised. Mr. Jelly claims for his method that it "requires a reasonable level of anaesthesia before the abdomen is opened," which implies that the curare is not being used to its best advantage. Reduction in the amount of curare employed in favour of a larger dose of anaesthetic should not be a cause for congratulation of any anaesthetist. The anaesthetic drugs should be used to produce the lightest narcosis possible, and the curare to afford the best muscular relaxation obtainable. The picture of a patient leaving the theatre "after a half dose of anaesthetic and the repeated summation of more than a full dose of curare" is difficult to conceive. After a reasonably skilful "curarization" the patient is moved from the theatre with his reflexes regained, usually with movement returned to his limbs, and frequently awake. The respirations are obviously of equal or greater amplitude than presented by comparable cases not receiving curare. If the effect of the curare persists for any reason, there is always prostigmin and atropine which may be injected into a vein or into the liver according to choice.—I am, etc.,

St. Albans. GORDON OSTLERE.

Hay Fever to Eczema via Benadryl?

SIR,—I was very interested in Dr. K. M. Tomlinson's letter (Feb. 7, p. 276) as I had one very similar case last summer. A young woman aged 30 came complaining of hay fever, which condition had appeared every summer since childhood. I gave her a course of "benadryl" with startlingly good results. Three weeks later, however, she returned with a fairly severe eczema which responded well to treatment with tar. She had never previously suffered from eczema and has remained clear ever since.—I am, etc.,

Belfast. PERCY G. HARRIS.

SIR,—In reply to Dr. K. M. Tomlinson (Feb. 7, p. 276) I cannot find any reason for his supposition, particularly as this anti-allergic drug has been used by me for quite a while with beneficial results. I am not assuming that it cures all types of allergy, but it definitely allays the more acute symptoms. It is a well-known fact that allergic individuals display a variety of manifestations of this reaction, which can be produced in many ways by liberation of histamine, as clearly illustrated by Lewis under the heading of "Triple Response from Histamine."

I have had occasion to treat many cases of cutaneous types of allergy associated with bronchial asthma, hay fever, urticaria etc., and I always try to ascertain the causation, whether it be due to foods, drugs, or a focal infection. As both the cases treated by Dr. Tomlinson were presumably hay fever he omitted a valuable line of investigation, which was to examine the condition of the nasal mucosa and the sinuses for focal infections such as suppurative sinusitis, polyposis, hyperplastic rhinitis, etc. It is known that bacteria, particularly staphylococci, very often give rise to chronic eczema or bronchial asthma, thus illustrating allergic manifestations due to bacteria. I have seen cases where dual reactions were present in the same patient—asthma and eczema; chronic sinusitis and arthritis; chronic sinusitis and eczema—and I have invariably found beneficial results follow the treatment of the focal infective condition with intramuscular penicillin emulsion (100,000 units for six consecutive days), and "benadryl" as an anti-allergic. I have not yet come across any case displaying any allergic reaction due to benadryl.—I am, etc.,

Cardiff. SYDNEY J. BELLGARD.

SIR,—I was interested in Dr. K. M. Tomlinson's letter (Feb. 7, p. 276) concerning "benadryl" and hay fever. Last August I, too, treated my hay fever with benadryl and had complete relief from the symptoms; in September I developed a form of eczema of the beard area which persisted for some weeks and was eventually proved to be due to sensitivity to a brushless shaving cream which I had been using for about twelve months.

Having never had any skin condition like this before, I assume that benadryl may have been in some way responsible. Is it possible that the absence of histamine action in a tissue renders it more liable to become sensitized by a foreign protein?

It would be interesting to hear of any cases of asthma developing after the use of benadryl.—I am, etc.,

Bristol. A. R. WEAR.

Iridocyclitis Treated with Benadryl

SIR,—I was interested to see Dr. Barbara Shaw's letter (Feb. 7, p. 277) under the above heading. I have been subject to attacks of iridocyclitis since 1944. My last attack started on Dec. 11, 1947, and lasted approximately seven weeks. I performed all the usual investigations, but was unable to find any cause. I was, I found, also liable to sensitivity reactions from various drops which I instilled—namely, hyoscine, hyoscyamine, and atropine—and on this account I used homatropine for a short time. This, however, was not strong enough and I developed approximately 12 posterior synechiae. I was then obliged to revert to atropine and at the same time I began to take "benadryl" 50 mg. t.d.s. This entirely alleviated the sensitivity reaction and I continued to take it for three weeks. It was then discontinued and atropine was exhibited for a further fortnight. In this case, therefore, I do not think that benadryl had the slightest effect on the course of the iridocyclitis.—I am, etc.,

Erdington, Birmingham. J. MOSS.

Test of Death

SIR,—In my letter on this subject (Feb. 14, p. 315) I should have worded one observation as follows:—In one case at least my ophthalmic examination was made some time after death, but whilst the cornea was still not sufficiently clouded to prevent the fundus being seen, and I found *no segmentation present*. Apparently, therefore, the segmentation sign of death had never occurred or had passed off again.—I am, etc.,

London, W.1. F. PARKES WEBER.

Trichlorethylene in General Anaesthesia

SIR,—I have read with great interest the article by Dr. Gordon Ostlere (Jan. 31, p. 195) on the above subject. Although I cannot claim to have employed "trilene" in quite such a number of cases as the Hill End Hospital series, nevertheless I have used this drug on many hundreds of occasions with no untoward sequelae whatsoever. Cardiac arrhythmias have been noted occasionally clinically, but are usually transient and appear to be eliminated by the addition of a higher oxygen percentage. Tachypnoea, I agree, is common, but this again can frequently be controlled by increased oxygen and less trichlorethylene, although in certain cases a change over to some other agent may be necessary to combat this condition. I employ the "pentothal," gas-oxygen, minimaal trichlorethylene sequence almost as a routine for radical mastectomy, and no surgeon has complained of increased bleeding.

In my view trichlorethylene is quite the most useful adjuvant to gas-oxygen anaesthesia in that it obviously permits of the use of a much higher oxygen percentage than if N_2O were the sole agent. Trichlorethylene is practically non-irritant, so that induction is smooth; also it seems to pave the way for the addition of ether vapour. It very rarely causes post-operative nausea, let alone vomiting.

The main disadvantage of trichlorethylene is that it does not give satisfactory muscular relaxation, with the exception, for some reason, of the muscles of the jaw. This latter exception is of particular value in that a pharyngeal airway can be inserted in a light plane of anaesthesia, whereas this manœuvre cannot be accomplished with gas-oxygen alone. It is well known that although the jaw is fully relaxed with pentothal the insertion of an airway will often produce laryngeal spasm.

I also have found gas-oxygen and minimal trichlorethylene excellent for maintenance anaesthesia with curare. Similarly it is most useful, again in minimal quantities with gas-oxygen, for the purpose of keeping a patient asleep during spinal anaesthesia. In the latter circumstances it need only be used intermittently and permits therefore of a high percentage of oxygen being employed.

The non-inflammability of trichlorethylene is particularly valuable as it can be used when a cautery is a part of the operative technique. It is of course now well known that trichlorethylene is contraindicated in a closed circuit owing to the toxic products produced by its interaction with soda lime.—I am, etc.,

Penn Street, Bucks. BERYL L. HARRISON.

Drug Addiction

SIR,—Dr. Eric Coplans (Feb. 14, p. 320) describes a cured case of morphine addiction by slow withdrawal of the drug, but both he and Dr. F. R. Ellis (Jan. 24, p. 175) fail to make clear that there are two types of addicts. The first and more easily cured variety becomes an addict accidentally as the result of pain requiring relief over a prolonged period of time; the second type is the unfortunate possessor of a psychopathic make-up who has neither the desire nor the strength of will to desist from taking the drug and thus frequently reverts to his former ways after a so-called cure.

It does not appear to be generally known that auto-serotherapy—as mentioned by Dr. Margaret Vivian (Feb. 7, p. 277)—will enable both types to get off the drug, with the minimum amount of distress and discomfort, in about two or three weeks.—I am, etc.,

Amesbury, Wilts. G. LOWELL WEBB.

SIR,—The prognosis of drug addiction is quite serious enough without the absurd statement of Dr. F. R. Ellis (Jan. 24, p. 175) that the condition is incurable. Among the ne'er-do-wells and misfits of society morphine addiction is possibly never cured, but there are many doctors in this country who have been cured and remain cured indefinitely. Dr. Ellis does a grave disservice to those others who in the future, as the result of unbearable stress or intolerable pain, may fall victims to the morphine habit.

I do not, of course, know on what tremendous personal experience Dr. Ellis founds his dictum, "notwithstanding all evidence to the contrary," but I hardly think that his proposal to produce "an arrested development stage" of morphinism (whatever that means) will do much to solve the problem. What he calls the "dreadful agony produced by the conventional form of treatment" is really the agony of deprivation which all treatments, with varying success, endeavour to mitigate. It follows that Dr. Ellis has nothing better to offer than a succession of such periods of agony to be inflicted at intervals when the addict, with developing tolerance, loses the enjoyment of his rationed dose. It would be interesting to discover from any practical experience gained by Dr. Ellis in this sort of procedure what sort of doses of "hyoscine or a barbiturate" are recommended when the patient starts breaking the furniture.—I am, etc.,

London, W.1. G. LAUGHTON SCOTT.

The Danger of Warming Transfusion Fluids

SIR,—It was common practice a few years ago to warm transfusion fluids by immersing the container in water at approximately 42° C. Under war-time conditions many medical officers discontinued this practice chiefly on account of the time involved in warming fluids. It was generally found to be satisfactory to allow the temperature of blood taken from the refrigerator to rise to that of the surrounding atmosphere. The rapid administration of even large volumes of fluid at atmospheric temperature did not result in an increased incidence of pyrexial or other reactions.

Apart from the time factor, however, there is another very good reason for discontinuing the practice of warming transfusion fluids—namely, the danger of overheating blood and plasma. That such a danger is not fully realized is illustrated by two recent cases in this Region. In each case the blood had been coagulated by immersion in very hot water. The loss of

fluidity prevented any attempt at administration in those cases, but the real danger is in cases where the warming is not sufficient to produce coagulation, but yet great enough to cause haemolysis. The transfusion of such haemolysed blood may have consequences as serious as the transfusion of blood of the wrong group.

Probably the only condition in which it is advisable to warm the transfusion fluids is in patients with a high titre of cold agglutinins, but even in these cases it is probably more important to keep the patient warm than to warm the blood. If, however, it is felt advisable to warm the blood and plasma as a routine before administration then the dangers of overheating must be impressed on those responsible for warming the fluids.—I am, etc.,

Glasgow and West of Scotland Blood Transfusion Service, Glasgow. JOHN WALLACE.

Vaginal Temperature

SIR,—Although only a medical student I should like to confirm Dr. G. I. M. Swyer's comments (Dec. 6, 1947, p. 931) regarding the adequacy of oral temperature records for the detection of ovulation. In the course of some investigations at the Melbourne University into body temperature it was found that such records showed the monthly biphasic fluctuations satisfactorily—provided due care was taken in obtaining the readings. It was certainly very much easier to persuade fellow students to co-operate by taking their temperatures orally than per rectum or vaginam.

As a matter of interest, for some time I kept a concurrent record of rectal and oral temperature. From this record it can be seen that the curve for oral temperature is reasonably consistently 0.5° F. (0.27° C.) below that for rectal, and shows parallel changes. Even the rise appearing after a restless night is similarly shown in each record.

Records will be most accurate if the temperature is taken immediately on waking, as oral temperature appears to alter more rapidly than rectal or vaginal. Needless to say the most easily interpreted charts are kept by those who wake at a regular time each morning. If the subject is a mouth-breather while asleep the mouth should be closed for five minutes before taking a reading.—I am, etc.,

Melbourne, Australia. JOY L. JAMES.

Radiological Evidence of Age

SIR,—With 25 years' radiological experience, which includes nine years as radiologist to a children's hospital, I would agree with Dr. Bernard Sandler's view (Jan. 31, p. 226) that few experienced radiologists would care to be exact, even within a year, as to age judged by shadows of epiphyses, particularly since persistent non-union of epiphyses is not uncommon.

In forensic medicine lectures as a student I was taught determination of age by epiphyses, but had entirely to change my views with practical radiological experience. In a standard forensic medicine textbook before me it states the cartilages of the first ribs ossify at 20 years and "at the middle of life all the cartilages are ossified." Excluding cases of rheumatoid arthritic conditions, where rib ossifications can occur at quite an early age, I suggest that inspection of thoracic films will not generally show cartilage ossifications of a widespread type until 45 years or even later. If the more delicate radiological demonstration is not possible earlier I fail to see how gross macroscopic section of cartilages can show calcification.

Unfortunately the legal mind requires definite statements rather than true statements involving latitude. In a legal case, in chambers before going into Court, I told a K.C. exactly how far I was prepared to go in my evidence. He therefore had little interest in my evidence and pressed a doctor who had attended the plaintiff to extend his evidence, with the result that under cross-examination this was shown to be false, and the doctor was committed for perjury. I was pleased to hear this doctor had been found not guilty, as his evidence had been given in good but foolish faith and the K.C. was more responsible than the witness. My own experience is that medico-legal witnesses tend to acquire this legal attitude for definite statements only and in consequence give dogmatic statements as to age, height, etc., based on fragments of tissues such as bones. These statements in a very large number of cases must be quite incorrect, but are often undisputed.—I am, etc.,

London, E.7. BERNARD J. LEGGETT.

The Lazy Eye

SIR,—Dr. Margaret L. Foxwell's letter (Jan. 31, p. 228), defending Devon County Council from my allegation that the school ophthalmic service is curative and not preventive, implies that in other parts of the country the position is unsatisfactory, and I am glad to have the support of Dr. Foxwell for my case.

Devon County Council appears to take its ophthalmic service very seriously, and the system seems comprehensive with one important exception. Dr. Foxwell states that in Devon every child has a yearly visual acuity test, and any child not attaining the standard of 6/6 in each eye is referred for ophthalmic examination. This is satisfactory as far as it goes, but it is well known that a child may have 6/6 vision in each eye and yet have fairly high errors of refraction, likely to lead to a squint developing. The Board of Education's 1931 report emphasized the need for a *refractive* yearly examination of each child, and only when this requirement is met will the school ophthalmic service become truly preventive.—I am, etc.,

Henley-on-Thames. S. BLACK.

Child Guidance and Youth Organizations

SIR,—Within recent times much publicity has been given to the increase in juvenile delinquency, while psychological and related features of its treatment and prevention have received frequent mention in the medical press. Does it not seem strange that this increase in juvenile crime should be contemporaneous with greatly enhanced social services and should mark the epoch of child-guidance clinics, of rise in the school-leaving age, and of considerable sums spent by Education Authorities on Youth Centres and other means of, as it has been said, "keeping children off the street"? In seeking some other factor to explain this anomaly one cannot but wonder how far it is related to another of the tendencies of our modern civilization. I refer to the breakaway from religious tenets.

In past times it was the faith of our fathers which underlay the moral standards for which our nation has long been renowned. As the discipline of religion is relaxed and forgotten so do these standards decay. This wide theme deserves much fuller recognition from our medical psychologists than most of them are wont to accord it. What I am here concerned with is a subsidiary of the main topic. Although the medical literature which deals with youthful delinquency and the psychological problems of youth abounds in references to all manner of agencies, preventive, educational, disciplinary, and punitive, mention of the standard youth organizations is all too conspicuous by its absence. The writer's personal association is with the Boy's Brigade, and this organization along with the Boy Scouts, the Church Lads' Brigade, and those groups which come within the sphere of influence of the National Association of Boys' Clubs together comprise a force undoubtedly to be reckoned with. Equally among girls the Girl Guides, the Girls' Guildry, the Girls' Life Brigade, and numerous excellent clubs are playing their part—and it is a big one—in the shaping of the national character.

In a number of instances probation officers and other disciplinary authorities are making use of the facilities our youth organizations offer. There is a real need for liaison between psychiatric workers on the one hand and the youth movements on the other. The latter are handicapped in that they enjoy a smaller financial backing than do the official and statutory bodies, while the standard of academic and technical knowledge possessed by their leaders is often less; and it is in this latter respect that I suggest the psychiatrist and psychologist could offer them genuine service. The morale of the youth organizations, *per contra*, is very high, while the relative hardships they suffer and the competition to which they each are subject are productive of a youthful vitality which is very invigorating. I am certain that were the psychiatrist and the social worker to endeavour to avail themselves of the facilities which the voluntary organizations offer they would find them at their service. It is equally certain that reciprocity of this kind will be mutually stimulating to the workers as well as beneficial to the young people concerned.

One point more—the addresses of the secretaries of the youth movements can readily be obtained from the youth secretary of the municipal or county education department.—I am, etc.,

Leicester. D. T. MACLAY.

POINTS FROM LETTERS

Unpaid Service

Dr. E. H. WALKER (Torrington, Devon) writes: . . . The doctor's wife, already probably one of the most persecuted persons, thinks she will suddenly become the unpaid telephonist and receptionist of the State. She need not. She and all her kin should inform Mr. Bevan that she does this service unpaid no more. It would give Mr. Bevan his worst headache and bust his scheme until he provides his new civil medical service with clerks in the same way as he does his food officer, petroleum officer, or any other officer. He doesn't ask them to employ their wives, unpaid, to enable them to carry out their duties for the State, and the miner and railwayman certainly wouldn't.

Sanatorium Treatment

Dr. G. KEMBLE WELCH (North Auckland, New Zealand) writes: Dr. P. Heffernan (Nov. 22, 1947, p. 837) raises two points about tuberculosis of wider importance than his letter implies.

First, he says that any doctor well acquainted with persons suffering from pulmonary tuberculosis can recall the names of hundreds of patients whose lives have been saved by prolonged sanatorium treatment. But the natural course of phthisis is very uncertain and patients not in sanatoria make astounding recoveries from apparently hopeless disease, while other cases with minimal lesions who are sent to sanatoria in the confident expectation of cure fail to respond and there die quickly.

Surely the only way to discover the value of treatment applied to such a disease, where in any given case it is quite impossible to foretell the outcome, even without treatment, is by a large-scale trial, carefully controlled and statistically examined—a trial such as the tuberculosis specialists demand of the B.C.G. vaccine.

Dr. Heffernan says it is quite impossible to show by statistical methods that sanatorium treatment has any influence whatever on the course of pulmonary tuberculosis. This brings me to my second point, which is that the inescapable conclusion from this lack of statistical benefit is that if any case is cured by sanatorium treatment some other case must be killed by sanatorium treatment—otherwise the benefit must show in the figures.

A Peck of Troubles

Messrs. J. FISHER and R. A. HINDE (Norwich) write: May we use your columns once more to convey our thanks to many of your readers who responded to our request (Jan. 10, p. 79) for information about birds opening milk bottles. We much regret that lack of time prohibits us from replying to all our numerous informants individually, but assure them that the information they have given us will be of the utmost value for our inquiry.

Forms

Dr. W. MUNRO LESLIE (Harrow) writes: Dr. W. C. Colville (Jan. 31, p. 229) says, "There is nothing more exasperating than a panel patient rolling up with his panel card the first time he is ill and yet he has been living in the area for months. . . ." May I submit, Sir, that there is? It is when a panel patient rolls up *without* his panel card the first time he is ill. Apparently the onus is then on the doctor to find out if the patient is really entitled to medical benefit. The doctor must complete the Form 6819/1940—the "notice of account when fee for deposit is not paid in cash." He must keep a copy of the details himself, and must advise the patient to take a receipt from the chemist for the amount paid." The transaction must go through his books and only be cancelled if/when the insurance committee confirm that the patient is a panel patient. This assumes however that the patient has forwarded the form to the insurance committee. Alternatively the doctor may, should the patient be under 6 feet, collect a fee from him. He still must complete a similar set of forms, so that there is no saving of the doctor's time or temper. What other section of the community would tolerate such a preposterous state of affairs? . . .

Thanks to the Consultants

Dr. KENNETH MCFADYEAN (London, S.E.24) writes: I am sure that I am voicing the feelings of many thousands of my fellow practitioners in expressing my deep appreciation of the magnificent stand taken by the consultant section of our profession in regard to the N.H.S. Act. If the behaviour of the present Minister of Health is in any way responsible for bringing about a new sense of unity within the ranks of the medical profession, it must surely be the only thing to his credit.

£300 a Year

Dr. R. W. COCKSHUT (London, N.W.4) writes: Shakespeare knew all about it:

> "O, what a world of vile ill-favour'd faults
> Looks handsome in three hundred pounds a year!"
>
> —*Merry Wives of Windsor*, Act III, Scene iv.

Obituary

JOSEPH GEOGHEGAN, M.D., F.R.C.S.Ed.

Dr. Joseph Geoghegan died in London on Feb. 4 at the age of 59 after over a year of ill-health. He was a man of many parts, a familiar figure at luncheon at the Royal Society of Medicine, a poet, a frequent contributor to medical and scientific journals, an ardent player of squash rackets, an authority on diseases of the digestive system—the exhaustive book he wrote on the subject, highly commended by the late Sir Arthur Hurst, was never published because of the war, though he was recently revising it. Dr. Geoghegan was the son of the assistant editor of *The Scotsman*, and was educated at George Watson's College and Edinburgh University, graduating M.B., Ch.B. in 1911, taking the F.R.C.S.Ed. in 1917, and proceeding M.D. in 1919. After taking resident posts at the Edinburgh Royal Infirmary he joined the Colonial Medical Service and was posted to the Caicos Islands in the West Indies, but took a commission in the R.A.M.C. on the outbreak of the 1914–18 war and served with distinction as a surgical specialist in France. After the war he returned to the West Indies, but this time to private practice in Kingston, Jamaica, where he was very successful and popular with the English community. Twenty years ago he came to London, was appointed physician to out-patients at the Royal Hospital, Richmond, and carried on a large medical practice in Wimpole Street, W.1, among his patients being many doctors and their families. Dr. Geoghegan married Miss Muriel Kerr-Brown, the Edinburgh pianist, in 1912, and is survived by his widow, a married daughter, and a son, who is a member of the medical profession.—R. S. S.

ETHEL WILLIAMS, M.D., D.P.H.

Dr. Ethel Mary Nucella Williams, who was one of the first women doctors to practise in Newcastle, died at her home on Jan. 29 at the age of 85. She was born at Cromer in 1863 and her father was a country squire, one of whose close friends was Lewis Carroll. She began her education at a high-school in Norwich and went on to Newnham College, Cambridge, where at that time women could attend lectures but could not take degrees. She was unable to obtain her hospital training in this country and so her clinical work as a student was done in Vienna and Paris. She took the London M.B. in 1891 and proceeded M.D. in 1895, going on to take the Cambridge D.P.H. in 1899. She was resident medical officer at the Clapham Maternity Hospital and at the Blackfriars Dispensary for Women and Children before settling in Newcastle and starting in general practice. She distinguished herself in 1906 by being one of the first women in the North of England to drive a motor-car. About this time too she became an active member of the suffragist movement, taking part in the first suffragist procession—the so-called "mud procession" of 1907.

Over the next thirty years, despite the increasing demands of her growing practice, Dr. Williams took an interest in public affairs, and she was concerned in the foundation of a number of women's organizations. She became a J.P. in 1931 and was a member of the old Newcastle School Board and later of the Education Committee. By this time she had retired from active practice but she maintained an unflagging interest in the public life of Newcastle. In 1946 the Newcastle Branch of the National Council of Women presented her with a portrait and a cheque as "some tribute to her long and valuable public service to her fellow men and women in this district." The cheque Dr. Williams immediately handed over to the Northern Women's Hospital. Dr. Williams was at one time president of the National Federation of Medical Women, and in the early days was chairman of the North-eastern Federation of the National Union of Women's Suffrage Societies. She was a member of the Senate of Durham University and acted as medical officer to the Women Students' Day Training Department at Armstrong College.

Dr. OLAF GLEESON died on Jan. 7 at the age of 58. He qualified M.R.C.S., L.R.C.P. in London in 1915, and served as a captain in the R.A.M.C. He had been for some years

honorary physician to St. Margaret's Hospital, Doddington, and to the St. Francis Clinic, London. He had been a member of the Portsmouth Town Council, and he stood unsuccessfully for Parliament in 1924.

G. H. C. writes: Olaf Gleeson, general practitioner and medical psychologist, amateur of sundry arts, and noted master of the craft of cabinet-making, was, more than all these, an "holistic" man, one in whom the professional aspect was always subordinate to the total reality, and therefore one whom friends and patients loved and will remember. This, or something of this sort, seems to have been the secret of "John" Gleeson, the source of that quality of greatness that must have been felt by the thousands who came near him in the various spheres in which he moved. How abundantly it qualified him for the role of psychotherapist. To this role he graduated, practising in Harley Street, after studentship at King's College and Westminster Hospital had led to strenuous services as a general practitioner at Portsmouth, and after World War I had taken him to the firing-line in a medical capacity to become eventually a casualty himself during a poison-gas attack. His personal integration gave him the intuition to perceive the essential problem of a patient before the patient could discover it for himself, and it gave him the courage to modify his treatment in the light of that intuitive perception. Therefore he was not so much a psychologist with a method—the exponent of a theory or the demonstrator of a technique—as a man with a flair and a personal touch guided by a deep understanding. Whether sailing in a boat of his own construction, or cultivating tomatoes hydroponically, or being filmed by Gaumont-British as a maker of superb furniture, or having a "nasty spill" in a ditch as the result of taking out for a trial run a home-made motor-car from which the brake-blocks had been removed, whatever it was that he did for fun he did it with a zest that secured for himself a maximum return of health and enjoyment. Sorrow and illness, however, come to us all, and when they came to Olaf Gleeson he bore them with astonishing fortitude.

Dr. WILLIAM ARTHUR WILSON-SMITH, who died on Jan. 5, graduated at Edinburgh in 1904, proceeding M.D. in 1907. In the same year he took the D.P.H. and went on a trip round the world. He settled in general practice in Long Sutton, Lincs, in 1910, continuing there until 1921. For the next fourteen years he was in practice in Harrow and from 1935 until his retirement in 1946 at Whiteparish, near Salisbury. He served in France in the 1914–18 war. Barely a year ago he retired to his old home in Berwickshire. Dr. Wilson-Smith was well-known in the pig-breeding world for his herd of pure-bred Large White pigs, which he founded at Cumledge in 1932.

W. McK. H. McC. writes: His many friends in the Harrow district will have learned with regret of the death of Dr. Wilson-Smith. He was in practice there for many years and earned a high reputation for conscientious work and painstaking thoroughness in all that had to do with the health of his patients. He was particularly interested in dietetics. He attended the old Harrow Cottage Hospital almost daily and was always ready to assist at operations, to give anaesthetics, or to give help when it was needed. His was an attractive and many-sided character, and the sympathy of his professional friends and former patients goes out to his widow and his only son, a subaltern in the Royal Scots, his grandfather's regiment.

Dr. DEBONNAIRE FREDERICK MAUNSELL died at his home in South Kensington, at the age of 77, on Jan. 18. Dr. Maunsell was the son of the late General J. R. Maunsell, R.E., and he was educated at St. Thomas's Hospital Medical School, where he qualified in 1897. He was a clinical assistant at the Throat, Nose, and Ear Department of the West London Hospital and also at the Brompton Hospital before settling in general practice in the Cromwell Road neighbourhood. Hampered for many years by increasing deafness, he continued his work right to the end, although for two or three years his friends had noticed with increasing apprehension the failing health which he continued to ignore. An innate modesty and kindliness, combined with complete integrity, were among Dr. Maunsell's leading characteristics. He married in 1914 Miss Isabel Margaret Tarbet, who survives him. They had two sons and one daughter. He was a vice-president and former honorary secretary of the West London Medico-Chirurgical Society.—H. R.

Dr. WILLIAM HUGH HILL, who died on Jan. 25, graduated at Edinburgh in 1896, proceeding M.D. in 1902. He was for a few years in private practice in Scotland before becoming resident physician to the Grampian Sanatorium, Kingussie. Later he was appointed assistant medical officer of health to the County of Essex under Dr. Thresh. He was particularly interested in public water supplies, and was made a member of the Ministry of Health Advisory Committee on Water Supplies. During the 1914–18 war he served as a captain in the R.A.M.C. and was awarded the French Médaille des Epidémies. At the end of the war he returned to the post he had taken up in 1911 as medical officer of health of the South Oxfordshire Combined Districts, retiring in 1940. His retirement was spent in Oxford. Of a somewhat reserved temperament, William Hill had a keen sense of humour. Competent in his work, he was impatient of incompetence in others. In his natural courtesy he was a gentleman of "the old school" and will be missed by his many friends.

Dr. ERNEST WHITMORE NEWTON GUINNESS, who died at the age of 82 on Jan. 29 at St. Thomas's Hospital after a short illness, was the son of the late Rev. William Newton Guinness, of Colooney, Co. Sligo. He was educated at Trinity College, Dublin, and shortly after qualifying he joined the medical service of the East India Railways. He was principal medical officer for some years before he retired in 1916. He served with the South Africa Forces in Tanganyika with the rank of lieutenant-colonel in 1916–19, and was mentioned in dispatches and awarded the O.B.E. After the war he farmed for a time in Kenya before turning his attention to public health. He was later appointed medical officer of health for Nairobi. After his wife's death he went to live at West Clandon, Surrey. In 1940, at the age of 74, he volunteered for service with the British India Steam Navigation Company, and was a ship's medical officer for the next three years.

Dr. HERBERT HENRY BROWN, who died at his home in Worthing on Feb. 2, will be remembered by a large number of older Ipswich people as one of the most popular medical men in the town towards the end of the last and the first twenty years of this century. On leaving Harrow School he received his medical education at University College Hospital, where he was a contemporary of Rose Bradford. During his undergraduate career he won a large number of prizes. After taking the M.B., B.S. with honours he proceeded M.D. in 1888, and took the F.R.C.S. in the following year. Dr. Brown had been a member of the British Medical Association for over fifty years. He was honorary secretary of the Section of Surgery when the Association met at Ipswich in 1900, and represented his Division at the Exeter Meeting in 1907. He was president of the Suffolk Branch in Ipswich in 1927–8. After postgraduate experience at University College, and in Worcester, he settled in practice in Ipswich in partnership with the late Dr. Hetherington, succeeding the late Dr. J. H. Bartlett. He was appointed to the staff of the East Suffolk and Ipswich Hospital in June, 1897, retiring under the age limit from the active work of the hospital in 1922. He had a distinguished career both in medicine and surgery, and as a diagnostician he was in a class by himself.—R. C.

F. R. S. writes: The death of Dr. H. H. Brown in his 86th year severs a link with the great days of University College Hospital towards the close of the nineteenth century. Dr. Brown entered as a medical student at University College Hospital, attracted there by the presence of men like Sharpey-Schafer, Sidney Ringer, Thomas Barlow, Henry Gowers, and Victor Horsley. His student career was brilliant; he seemed to obtain gold medals and scholarships without apparent effort. Even as a student he carried out an effective piece of research on spermatogenesis, and his drawings were used in many editions of Sharpey-Schafer's book on histology. Nevertheless the lure of clinical work proved too great and he gave up research. He held his appointment at the East Suffolk and Ipswich Hospital for twenty-five years, and his work there did much to raise its prestige. Dr. Brown was unexcelled as a clinician and his surgical daring and success were a local wonder. Despite long hours spent at the hospital, he found time to run a busy general practice and to enter into local politics. During World War I he had charge of the military beds at the main and the two auxiliary hospitals, and the enormous labour that this entailed was recognized by the award of the O.B.E. In person Dr. Brown resembled the typical John Bull, and he had many of the characteristics attributed to that mythical figure; his tenacity and pugnacity were well-known and, wedded to a fine intellect, he soon became the final court of appeal in all desperate cases of illness: indeed, not to die when Dr. Brown foretold it was almost an impertinence on the part of the patient. Dr. Brown retired in 1932 but he remained a keen student of medicine until nearly the end, and we in East Anglia say goodbye to a great personality and a fine doctor.

Medical Notes in Parliament

N.H.S. Superannuation in Scotland

On Feb. 9 Mr. J. J. ROBERTSON, Joint Under-Secretary of State for Scotland, moved the approval of the Draft National Health Service (Scotland) Superannuation Regulations, 1948, proposed to be made by the Secretary of State for Scotland under Section 66 of the National Health Service (Scotland) Act, 1947. He said these complicated Regulations were necessary to set up a simple comprehensive superannuation scheme for all persons employed in the National Health Service in Scotland. Except on minor points they made the same provision as the Superannuation Regulations already approved by Parliament for the English Health Service. They provided for all employees and practitioners in the new Service superannuation benefits on a contributory basis, consisting of retiring and incapacity pensions, short-service gratuities, death gratuities, and injury allowances. They also included provision for widows' pensions. They contained special provisions to ensure that the existing superannuation rights of the 60,000 persons who would become subject to the Regulations on the appointed day would be fully preserved and that everyone transferred into the new Service would be at least as well off as before the transfer. Hospital officers who at present had no pension rights would for qualification purposes in the new scheme be able to count all their previous hospital service. Such an officer might become eligible immediately for some benefits of the scheme, such as the incapacity pension, which was normally one-quarter of the officer's remuneration, or the death gratuity, which was a minimum of one year's service salary. A unique feature of these Regulations was the extent to which they preserved the pensions rights of persons who after the appointed day moved from the Health Service into other types of public service or from other types of public service into the Health Service. The Scottish Regulations had been discussed in draft with some forty representative bodies. On one or two points the Government had not been able to go as far as it was asked, but nevertheless it had received a fairly high degree of support for the proposals now made.

Mr. CHARLES WILLIAMS asked the Government to justify the difference in the rates proposed for men and women.

Mr. J. S. C. REID asked whether there was full interchangeability for pensions between the general practitioner, the teacher in the university, the full-time Government servant, and the full-time municipal servant. He asked for an assurance that if full interchangeability did not exist already it would be brought in as soon as might be. He thought the proposals for officers in voluntary hospitals were satisfactory, and he understood with regard to those who had already retired that *ex gratia* payments would be made. These payments would continue the pension which they now enjoyed as a matter of grace from existing hospital authorities and so the position of all was adequately safeguarded. On the general provisions for pensions for general practitioners he said the scheme was fair but would be brought to naught unless a steady level of prices could be maintained over a man's whole professional career. The same consideration applied to payments on goodwill. He asked who determined whether a medical man was finally and totally incapacitated. If he recovered sufficiently to try again had he to give up all rights he had acquired or would he be allowed to see if he was fit enough to practice? He could see no reason why the man who started at 56 and went on working should never be allowed to earn a pension even if he went on to be 70. That seemed quite unjustifiable. He hoped Mr. Robertson would make it clear that a doctor who finished ten years' service, no matter what his age, would be entitled to a pension based on those ten years.

Dr. H. B. MORGAN asked whether any change was proposed in the definition of the words "mental health officer." In England a new interpretation had been put on that term by which many of these officers were precluded from getting the full advantages of the Superannuation Regulations. He also asked for an assurance that employees in mental institutions would have the right of opting to retire and would not be compelled to accept new terms under the new Superannuation Regulations. With regard to mental employees in the Royal Institutions in Scotland the Secretary of State had acknowledged the option of these men to remain in their old schemes. The Secretary of State had given an assurance with regard to the Institution of Dumfries, but was not sure whether the Royal Institutions in Perthshire or Stirling had such schemes, or the Morningside Institution at Edinburgh or the Royal Institution in Glasgow.

Sir WILLIAM DARLING thought the Secretary of State should help doctors who were placed in a difficulty owing to having taken in the earlier years of their lives very substantial insurance policies.

Replying to the debate, Mr. WOODBURN said he was pleased to have an assurance that some doctors were coming into the scheme. It was a great comfort to him that some members of the Opposition were convinced there would be a scheme. There was provision in special cases that practitioners might carry on beyond 65 and so complete the ten years and be entitled to a pension in the normal way. If a practitioner came in at 57 and had only 8 years he would get his contributions returned with compound interest and also the value of his practice in the normal way. He thought the assurance given to the Creighton Royal Institution could be extended to others similarly placed. He thought the general principles laid down were just and fair to young doctors. He would look into a real case of difficulty if Sir William Darling furnished it. The differential rates proposed for men and women were based on the different expectation of life.

The House then approved the Regulations.

Bovine Tuberculosis

Mr. TOM WILLIAMS on Feb. 2 moved the Second Reading of the Animals' Bill, one purpose of which is to extend the authority of the Ministry of Agriculture to make payments to farmers for eradicating bovine tuberculosis from their herds. He said that since the middle of 1944 the number of attested herds in Great Britain had increased from 16,000 to 30,000. There were now nearly 1,200,000 attested cattle in Great Britain, or more than one-eighth of the total cattle population. Scotland had made more progress than England and Wales, although Pembroke, Cardigan, and Carmarthen had done magnificently, England lagged hopelessly behind. Preliminary discussions had taken place on a plan for the elimination of tuberculosis area by area. To clear the whole country of bovine tuberculosis could not take less than ten to fifteen years.

After a brief debate the Bill was read a second time.

Attempted Rape Bill

Mr. YOUNGER, for the Home Office, moved on Jan. 30 the Second Reading of the Attempted Rape Bill which proposed to raise the maximum penalty for the offence from two years' imprisonment to seven years. He said the judges had pointed out that the attempt might cause the victim all the indignity and terror of the full offence.

Colonel LIPSON contended that there was no evidence that the number of convictions for sexual offences was increasing.

The Bill was then read a second time. It was taken in Committee on Feb. 5, when an amendment to substitute 15 for seven years was rejected. The Bill was read a third time by 196 to 17.

Pneumoconiosis.—The number of certificates of disablement or suspension on account of pneumoconiosis issued by the Silicosis Medical Board to coal-miners during 1947 was 3,724. The distribution of these among the regions of the Ministry of National Insurance was Northern 94, East and West Riding 146, North Midland 12, South Eastern 55, South Western 64, Wales 2,837, Midland 102, North Western 105, Scotland 309. No certificates were issued in the Eastern and Southern regions.

Fees for Dentists.—Mr. JAMES GRIFFITHS said on Jan. 27 that the settlement of the dispute about dentists' fees for National Health Insurance work provided for retrospective payments for dentists if, in the light of the forthcoming report of the Spens Committee on Dental Remuneration, present fees were found to have been inadequate. That the great majority of dental letters issued by approved societies were taken up by dentists was evidence that the settlement was widely accepted. There was no compulsion on the dentist to accept a dental letter.

Cars for Doctors.—In response to Colonel WHEATLEY, who asked that doctors might have equal priority with the export trade in securing new motor-cars to replace worn-out ones, Mr. J. JONES regretted it was impossible to increase the supply of motor-cars to the home market at the expense of exports. The motor industry, however, was honouring its undertaking to give as much preference as possible to the delivery of cars ordered by doctors.

Purchase Tax on Drugs.—Sir STAFFORD CRIPPS announced on Jan. 27 that a further Treasury Order exempting certain drugs from the recent increase in Purchase Tax would shortly be announced. He would also consider medicines in a review of the Purchase Tax in connexion with the forthcoming Budget.

Medico-Legal

SHORT WEIGHT IN PILLS

[FROM OUR MEDICO-LEGAL CORRESPONDENT]

A Dorset doctor ordered from a firm of drug suppliers in London some 1-gr. (65-mg.) and 3-gr. (0.2-g.) pills of sodium thiocyanate. The firm obtained them from a large manufacturing concern. The patient did not respond properly to treatment, and the pills were analysed and found to be of short weight by 23 and 28% respectively. The second firm were therefore charged with supplying an article not of the nature and quality demanded by the purchaser. The magistrates found that the firm had adopted the usual trade practice in the manufacture of the pills and were not aware that this deficiency could occur in making pills by hand; they therefore dismissed the case. On appeal by the county inspector, the Divisional Court said that the bench ought to have convicted.[1]

The firm's excuse was that a certain amount of material sticks to the hand or the mortar in the mixing, and they therefore could not guarantee that every pill that went out contained 1 or 3 gr., as the case might be, as it would not pay them to test the pills. The court could not accept this. If the firm knew that the pills might be deficient they should inform the doctor or customer of the fact. There was no evidence that doctors and the public generally knew that they could not expect a pill to weigh as much as it was supposed to. A manufacturer was protected against the consequences of a small deficiency by the provision of the Food and Drugs Act that an accidental abstraction of some constituent did not entail a penalty if it had not affected the quality or potency of the drug and was not made fraudulently, but he could not waive his responsibility for a shortage that really mattered. If manufacturing chemists could not supply the right quantity they, and the retailer, should make it clear to the purchaser that they could not say that a particular pill contained substantially the precise amount of the drug ordered.

[1] *Breed* v. *British Drug Houses*, 1947, 2 All E.R., 613.

Universities and Colleges

UNIVERSITY OF CAMBRIDGE

Air Vice-Marshal Alan Filmer Rook, C.B., O.B.E., F.R.C.P., R.A.F., and Leonard Heber Hawtrey May, M.B., B.Chir., have been appointed Senior Health Officer and Junior Health Officer respectively in the Department of Medicine for a period of three years from May 1.

UNIVERSITY OF LONDON

Prof. G. R. Cameron, D.Sc., F.R.S., F.R.C.P., will deliver the Sydney Ringer Memorial Lecture, on "Pulmonary Oedema," in the lecture theatre of University College Hospital Medical School, University Street, Gower Street, W.C.1, on Tuesday, March 16, at 4.30 p.m. The lecture is open to all qualified medical practitioners and medical students.

The following have been recognized as teachers of the University in the subjects indicated in parentheses: *St. Bartholomew's Hospital Medical College:* Mr. A. W. Badenoch, Mr. A. H. Hunt, and Mr. J. E. A. O'Connell (Surgery); Dr. K. O. Black and Dr. N. C. Oswald (Medicine); Dr. J. W. Aldren Turner (Medicine (Neurology)); Mr. H. Jackson Burrows (Orthopaedics); Dr. A. W. Franklin (Children's Diseases); Mr. D. B. Fraser (Obstetrics and Gynaecology); Dr. R. A. K. Harper and Mr. I. G. Williams (Radiology); Dr. R. M. B. MacKenna (Dermatology); Mr. H. B. Stallard (Ophthalmology). *St. Thomas's Hospital Medical School:* Dr. W. A. Low (Anaesthetics). *St. George's Hospital Medical School:* Dr. J. N. M. Chalmers (Pathology); Dr. M. I. A. Hunter (Medicine); Dr. N. H. Martin (Chemical Pathology). *Middlesex Hospital Medical School:* Dr. F. R. Bettley (Dermatology); Dr. G. W. Hadley and Dr. A. Willcox (Medicine); Mr. R. Sampson Handley (Surgery). *St. Mary's Hospital Medical School:* Dr. J. J. Pritchard (Anatomy). *Royal Free Hospital School of Medicine:* Miss Jean M. Dollar, M.S., F.R.C.S. (Ophthalmology). *Maudsley Hospital:* Dr. E. Guttmann (Mental Diseases (Psychiatry)). Probationary, for two years from November, 1947. *St. Bartholomew's Hospital Medical College:* Dr. W. E. Gibb (Medicine). *St. George's Hospital Medical School:* Sir William P. Mallinson, B.M., B.Ch. (Mental Diseases (Psychiatry)). *Middlesex Hospital Medical School:* Dr. E. W. Hart (Children's Diseases); Mr. P. H. Newman (Orthopaedics).

The British Postgraduate Medical Federation, in respect of its facilities at the Postgraduate Medical School of London, has been admitted as a School of the University in the Faculty of Medicine.

The Royal College of Surgeons in Ireland has been recognized for the purposes of the M.B., B.S. degrees for external students for a period of five years from Oct. 1.

The John Marshall Fellowship, of the value of £700 a year for two years, has been awarded to Athol George Riddell, M.B.E., M.B., B.S., University College Hospital Medical School, from Nov. 1, 1947.

Dr. J. R. Gilmour has resigned from the post of Reader in Morbid Anatomy at London Hospital Medical College, and Dr. A. C. Stevenson, Reader in Public Health at the London School of Hygiene and Tropical Medicine, resigns from this post on April 1.

George Perkins, *M.C.*, M.Ch., F.R.C.S., has been appointed to the University Chair of Surgery tenable at St. Thomas's Hospital Medical School, as from Jan. 1.

King's College Hospital Medical School

Harold Clifford Edwards, C.B.E., M.S., F.R.C.S., has been appointed Dean of the Medical School in succession to Terence Edward Cawthorne, F.R.C.S., who has resigned.

Henry Adolph Magnus, M.D., Morbid Anatomist to the Hospital and Medical School, has been appointed Director of the Pathology Department.

UNIVERSITY OF WALES

The following candidates for the degrees of M.B., B.Ch. at the Welsh National School of Medicine have satisfied the examiners at the examinations indicated:

OBSTETRICS AND GYNAECOLOGY.—Maureen M. Bassett, Sarah A. Chard, N. V. Chivers, S. I. Cohen, A. V. Coleman, G. J. Davies, Joan V. Davis, E. F. Griffiths, Anne Guy, E. J. Hargadon, J. M. E. Hyde, Marjorie L. James, Beryl H. Jones, Eluned K. Jones, J. H. Jones, Rosina E. Jones, T. D. Jones, D. M. D. King, R. H. Lewis, C. S. Livingstone, Joan A. McLay, J. E. Mitchell, M. A. Owen, C. L. Perry, G. M. Reynolds, Frances M. Richards, J. M. Richards, Esme S. Rogers, Sybil H. Stephens, *C. E. Stroud, Augusta J. Taylor, J. H. S. Wakelin, J. A. Wilkinson.

* With distinction.

SURGERY.—Maureen M. Bassett, N. V. Chivers, *S. I. Cohen, A. V. Coleman, D. P. Davies, E. F. Griffiths, Anne Guy, *J. M. E. Hyde, E. G. A. Jackson, D. W. James, Marjorie L. James, Dilys W. John, J. H. Jones, R. H. Lewis, C. S. Livingstone, Joan A. McLay, J. E. Mitchell, Lilian M. Morgan, E. G. Rees, Frances M. Richards, J. M. Richards, Sybil H. Stephens, *C. E. Stroud, Augusta J. Taylor, J. H. S. Wakelin.

* With distinction.

ROYAL COLLEGE OF PHYSICIANS OF LONDON

At a meeting of the Royal College of Physicians of London held on Jan. 29, with the President, Lord Moran, in the chair, the following resolution was passed:

"That after the plebiscite and the Special Representative Meeting of the British Medical Association on March 17 a special Comitia should be held to determine what action could most usefully be taken in the interests of the public and the profession as a whole."

Dr. G. Bourne was appointed to represent the College on the Central Council for District Nursing and Prof. J. M. Mackintosh at the Royal Sanitary Institute Conference to be held at Harrogate from May 24 to 28.

Membership

The following candidates having satisfied the Censors' Board were elected Members of the College:

J. L. Adams, M.B., D. G. Adamson, M.B., Y. Ez-el-Din Ahmad Azab, M.B., Daphne S. A. Anderson, M.B., W. F. Anderson, M.D., W. B. Armstrong, B.M., P. Arnold, M.B., G. P. Baker, M.B., C. W. Bartley, M.D., A. G. Beckett, B.M., A. B. Black, M.B., V. M. Borrelli, M.B., P. F. Borrie, M.B., B. F. Brearley, M.B., H. T. Calvert, M.B., J. A. G. Carmichael, L.R.C.P., Major, R.A.M.C., H. S. De Silva, M.B., P. E. Dipple, M.D., A. Divaris, M.B., A. St. J. Dixon, M.B., H. G. Dunn, M.B., A. M. Edwards, M.D., F. J. Fish, M.B., Constance C. Forsyth, M.B., J. L. Frew, M.D., A. N. Ganguli, M.B., T. J. B. Geffen, M.B., Janet B. Gorham, M.B., N. Green, M.D., H. Grusin, M.B., R. T. S. Gunn, M.B., R. T. Hastings-James, M.B., I. F. Hayali, M.D., J. Henneman, M.B., H. W. Hickman, M.B., J. A. Hildes, M.D., S. W. Hinds, M.D., J. Hirst, M.D., W. S. Holden, M.B., C. A. Holman, M.B., F. H. Howarth, M.B., I. P. Jaffe, M.B., H. W. F. Jones, M.B., Henriette Lackner, M.B., G. de J. Lee, M.B., J. Lee, M.B., D. Longson, M.B., J. B. Lowe, M.B., D. B. Macaulay, M.B., E. McC. McGirr, M.B., A. G. MacGregor, M.B., M. McGregor, M.B., C. S. McKendrick, M.B., T. P. Mann, M.B., P. M. C. Mark, M.D., A. S. Mason, M.B., R. M. Mason, B.M., J. D. H. Matthews, M.B., W. B. Matthews, B.M., D. A. D. Montgomery, M.D., J. A. U. Morgan, M.B., J. E. Morris, M.B., A. H. Nakhooda, M.B., F. W. Nash, M.B., W. O'Brien, M.B., D. F. D. O'Neill, M.D., A. G. Parks, B.M., J. C. Pease, B.M., J. Perrin, M.B., J. Pinching, B.M., P. E. Polani, M.D., A. S. Ramsey, M.D., D. G. B. Richards, M.B., P. H. Rogers, M.B., A. J. Rook, M.B., E. S. Rowbotham, M.D., J. Rubie, M.B., J. Rudolph, M.B., W. A. M. Seldon, M.B., S. A. Sewell, M.B., S. C. Sheth, M.B., V. Solomon, M.B., J. P. Sparks, M.D., Y. H. Tang, M.D., Jean S. Taylor, M.B., W. H. Trethowan, M.B., O. L. Wade, M.B., J. R. Wagstaff, M.B., G. D. Walker, B.M., R. L. Ward, M.B., A. D. Weatherhead, M.B., R. H. Wheeler, M.B., R. H. White-Jones, M.B., E. G. Wilkins, M.D., J. M. Wilson, M.B., R. H. L. Wolfsohn, L.R.C.P., B. S. B. Wood, B.M.

Licences

Licences to practise were conferred upon 100 candidates (including 22 women) who have passed the final examination in Medicine,

Surgery, and Midwifery of the Conjoint Board and who have complied with the by-laws of the College:

D. B. Allbrook, Sophie Bard, Marjorie M. Barr, A. J. Beale, Edda L. I. Boesen, T. R. Bomanji, J. M. N. Boss, W. M. Brent, P. P. M. Browne, R. St. J. Buxton, P. S. Carton-Kelly, D. B. Cathcart, Elizabeth H. Clow, I. H. Colley, J. G. E. Collins, A. L. Cowan, J. Davenport, J. L. J. de Bary, P. L. G. G. Delva, R. B. Ditmar, R. G. Donaldson, D. H. Dracup, G. A. Dransfield, D. A. Evans, T. M. W. Farewell, J. M. Fisher, H. A. Friedlander, Kathleen M. Frith, R. G. Gibbs, M. E. Glanvill, B. Goldstein, Aileen M. Hampton, P. R. Harben, A. B. Haward, Annie Hosker, J. A. C. Howie, Aelwen Hughes, L. G. R. Hull, Rosalind E. S. James, Mary J. Jeffery, F. H. W. Johnson, Margaret E. Johnson, Millicent M. Johnston, D. C. B. Jones, H. E. Kane, C. A. L. Kyndt, A. H. Laxton, A. L. Levene, R. Lewis, Patricia M. M. Lobb, B. C. H. Luker, A. G. McCallum, I. L. MacFarlane, H. E. Madge, A. P. M. Meyer, M. J. Mildren, E. R. Mitchell, J. C. Mitchell, N. D. W. Morrison, J. B. Moser, Margaret G. Oyston, D. J. Parr, G. G. K. H. Parsons, R. A. Payne, D. L. Phillips, J. C. E. Pougher, F. J. Powell, D. M. P. Pullen, F. A. Rainford, Honour C. I. Richardson, C. S. C. Roberts, K. J. Roberts, P. R. McH. Scales, E. Schofield, Olive Sharpe, B. A. Shelmerdine, J. T. Sherlock, N. K. Shinton, J. F. Skone, F. H. N. Smith, W. T. Smith, S. Stemberg, Janet M. Stokes, S. N. Stotesbury, W. E. Suffield, P. G. S. Sutton, P. K. Sylvester, Elizabeth K. Tang, Barbara R. Tanner, Hilda J. Tanner, K. C. G. Taylor, Valerie M. Thompson, R. L. Timms, W. C. Turner, Joan C. Wells, W. J. Williams, M. B. Wingate, J. L. Wood, D. H. M. Woollam, M. E. Y. York-Moore.

Diplomas

The following diplomas were granted, jointly with the Royal College of Surgeons of England:

DIPLOMA IN ANAESTHETICS.—J. B. Searle; and to the other successful candidates whose names were printed in the report of the meeting of the Royal College of Surgeons of England in the *Journal* of Jan. 24 (p. 178).

DIPLOMA IN PSYCHOLOGICAL MEDICINE.—D. W. Rowntree; and to the other successful candidates whose names were printed in the *Journal* of Jan. 24 (p. 178).

DIPLOMA IN TROPICAL MEDICINE AND HYGIENE.—S. Khayatt; and to the other successful candidates whose names were printed in the *Journal* of Jan. 24 (p. 178).

Diplomas in Laryngology and Otology and in Industrial Health were granted to the successful candidates recorded in the *Journal* of Jan. 24 (p. 178).

DIPLOMA IN PHYSICAL MEDICINE.—W. R. Grant, A. K. Tyler.

DIPLOMA IN OPHTHALMIC MEDICINE AND SURGERY.—J. Scully.

DIPLOMA IN MEDICAL RADIOTHERAPY.—D. K. Sambrook.

DIPLOMA IN CHILD HEALTH.—M. B. Gamat, A. D. M. Jackson.

DIPLOMA IN PUBLIC HEALTH.—L. R. B. Birt, P. Coggin Brown, Jessie A. R. Cripps, T. M. W. D'Arcy, Margaret B. Davies, J. Dolan, V. O. B. Gartside, R. B. Illing, C. L. Knight, S. E. Large, Barbara Law, W. C. D. Lovett, J. H. Maughan, A. J. Nelson, J. O'Regan, W. S. Parker, P. Pattison, J. V. Radley, J. Reynolds, H. J. A. Richards, A. F. Ritchie, Mary V. Rose, Marguerite S. Sheare, Elspeth W. Smellie, Agnes A. V. Smyth, W. Stewart, P. Weyman, D. H. J. Williams.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

At an ordinary meeting of the Council of the College, held on Feb. 12, with Sir Alfred Webb-Johnson, Bt., President, in the chair, a proposal to provide residential accommodation for postgraduate students of the College was approved in principle.

It was decided to establish a Faculty of Anaesthetics in the College.

The Hallett Prize was awarded to D. S. Chapman (University of Durham).

The following hospitals were recognized in respect of the resident surgical posts required of candidates for the Final Fellowship examination: Bootle General Hospital (resident surgical officer); City General Hospital, Sheffield (house-surgeon and casualty officer); West Norfolk and King's Lynn Hospital (resident surgical officer for one year only).

The following members of the medical profession were elected Fellows in Dental Surgery: J. B. Parfitt, M.R.C.S., L.R.C.P., G. F. Fawn, M.R.C.S., L.R.C.P., A. L. Packham, M.R.C.S., L.R.C.P., H. L. T. J. Hardwick, M.R.C.S., L.R.C.P.

Diplomas

Diplomas of Membership were granted to M. D. M. Bowen, J. S. Jenkins, and to the recipients of the licence of the Royal College of Physicians of London whose names are printed above in the report of the meeting of the College.

Diplomas in Public Health, in Psychological Medicine, in Anaesthetics, and in Ophthalmic Medicine and Surgery were granted, jointly with the Royal College of Physicians of London, to the successful candidates whose names appear above in the report of the meeting of that College.

Diplomas in Tropical Medicine and Hygiene were granted, jointly with the Royal College of Physicians of London, to M. S. Holman and S. Khayatt, and in Child Health to H. S. de Silva.

The Board of Faculty of Dental Surgery held its first dinner on Jan. 30, when it entertained at the College some of the senior distinguished members of the profession who were recently elected to the Fellowship in Dental Surgery. The President of the College, Sir Alfred Webb-Johnson, who presided, proposed the health of the guests. He took the opportunity of thanking the Board for the silver cup which it had presented to the College to commemorate the inauguration of the Fellowship and the establishment of the Faculty. The cup is of George II period and bears the arms of the Earl of Chatham (William Pitt) who was responsible for Parliament buying the John Hunter Collection and entrusting it to the College. Mr. A. E. Rowlett, replying for the guests, thanked the President and the College for all they had done for dental surgery, particularly in the establishment of the Fellowship and Faculty. They all realized how much they owed to the President. The Dean (Prof. R. V. Bradlaw), Sir Frank Colyer, and Mrs. Lindsay also spoke.

Medical News

Not to Serve under the Act

At the Annual General Meeting of the Association of the Honorary Staffs of the Major (Non-Undergraduate) Voluntary Hospitals of England and Wales held on Jan. 29 the following resolution was passed unanimously:

"That this Association at its Annual General Meeting agrees to recommend that no member of the staffs of its member hospitals should accept service under the National Health Service Act as it now stands."

The Council has been concerned about the possible appointment of Regional Advisers and has passed the following resolution:

"That the Regional Adviser, if appointed, in visiting hospitals should advise, but not have the power of direction in clinical matters."

Unit for Premature Babies

A unit for premature babies was opened at the Hammersmith Hospital on Feb. 12. The medical staff is provided by the Institute of Child Health and the British Postgraduate School. Prof. Alan Moncrieff, Dr. D. de la C. MacCarthy, and Dr. R. R. Gordon are in charge of the unit.

W.H.O. Established

Twenty-nine member States of the United Nations have now ratified the constitution of the World Health Organization, and the Soviet Union has promised to do so shortly. It is therefore established on a permanent basis, and the first World Health Assembly will be held in Geneva in June. Subjects tabled for early discussion by the World Health Organization include such tropical communicable diseases as cholera, yellow fever, and malaria, and more general topics such as child health, standardization of biological products, and rural hygiene.

Bridge of Earn Fitness Centre

The Residential Rehabilitation Centre for male patients formerly at Gleneagles Hospital is now functioning at Bridge of Earn Hospital and Fitness Centre, Perthshire. All classes of male patients, irrespective of their trade or calling, suffering from medical or surgical disabilities and requiring rehabilitation can be accepted, but they must be ambulant and able to feed and clothe themselves. Cases can be admitted from hospital or direct from medical practitioners anywhere in Scotland. Applications for admission of patients should be made to the Medical Superintendent and should give as much information as possible about the clinical condition of each patient; case sheets and *x*-ray photographs should be sent if available. They will be returned on discharge of the patient.

Prize in Ophthalmology Offered

An honorarium of $1,000 to promote research in ophthalmology is offered through the American members of the staff of the International Association for the Prevention of Blindness. The jury will consist of the executive committee together with the president and the officers of the Association. The award will be made in connexion with the Sixteenth Concilium Ophthalmologicum. The subject is "Simple Non-inflammatory Glaucoma" and may include anything relative to the problem. The work must be original. Papers may be written in English or French and should be either previously unpublished or published between now and Oct. 15, 1949. They should reach the secretary of the International Association for the Prevention of Blindness, 66, Boulevard St. Michel, Paris, not later than Oct. 15, 1949.

Institute of Psycho-Analysis Prize

The prize of £25 offered by the Institute of Psycho-Analysis (96, Gloucester Place, London, W.) for the best entry for the students' prize essay competition has been awarded to Mr. H. S. Glatt (Sheffield University) for his essay entitled "A Social Approach to Psycho-Neurosis."

Chest Specialist from Chile

Dr. H. Orrego Puelma, Head of the Chest Diseases Department of the San Salvador Hospital and specialist in tuberculosis, is visiting Britain under the auspices of the British Council to study recent developments in the treatment of tuberculosis and particularly rehabilitation problems.

Tuberculosis Research in Germany

An institute has recently been established in Schleswig-Holstein for research in tuberculosis. It is staffed by German experts.

Wills

Dr. Alexander Munro, of Bournemouth, who died on June 10, left £26,419. Dr. George Fyfe Waterston, Kendal, Westmorland, and Bolton, Lancs, who died on Feb. 27, left £40,545.

COMING EVENTS

Speech Therapy

A Speech Therapy Conference will be held at the Royal Society of Medicine, 1, Wimpole Street, London, W.1, on Sept. 20 to 24. Those wishing to submit papers (time limit, 15 minutes) should send the title and a summary to the secretary not later than March 1. Sessions will be held on the following subjects: The Aim and Scope of Speech Therapy; Emotional Background of Stammering; Speech Disorders Arising from Head Injuries; the Speech Clinic and the Speech Defective Child; the Role of Emotional Problems in Producing Disorders of Speech; and general sessions during which members of the Conference will present papers on various aspects of speech therapy and closely related subjects.

Nutritional Status in Great Britain

The Nutrition Society has arranged a whole-day conference on "Results of Recent Investigations into the Nutritional Status in Great Britain" to be held at the London School of Hygiene and Tropical Medicine, Keppel Street, W.C., on Saturday, March 13, at 10 a.m.

School Medical Officers

The School Health Service Group of the Society of Medical Officers of Health will hold a refresher course for school medical officers at the London School of Hygiene, Keppel Street, London, W.C.1, on April 5–10. It is intended primarily for medical officers who are actually engaged in the work of school medical inspection. The lectures will therefore be concerned with disabilities as the school medical officer meets them in his daily work, with special reference to the selection of cases to be referred for specialist investigation and treatment and to the care of children who are kept under observation in ordinary schools. The Minister of Education will recognize for the purposes of grant reasonable expenditure incurred by authorities in connexion with attendance by school medical officers or assistant school medical officers at the course, subject to district auditors passing such expenditure as a proper charge on the education account. Applications should be sent as soon as possible to: The Executive Secretary, Society of Medical Officers of Health, Tavistock House South, Tavistock Square, London, W.C.1. The fee for the course will be £2 12s. 6d. plus a registration fee of 10s. 6d.

Royal Institute of Public Health and Hygiene

A series of lectures will be given at the Royal Institute of Public Health and Hygiene, 28, Portland Place, London, W., on Wednesdays, at 3.30 p.m., from March 3 to April 21 (except March 24). Details will be published in the diary column week by week. Admission to the lectures is free, without ticket.

Guy's Hospital Dental School

The annual clinical meeting of Guy's Hospital Dental School will be held in the Dental Department of the hospital on Saturday, March 6, at 11 a.m., when demonstrations of modern dental procedures will be given by members of the staff and cases of clinical interest shown.

American Association for the Advancement of Science

The centennial celebration of the American Association for the Advancement of Science will be held in Washington, D.C., in Sept., 1948.

SOCIETIES AND LECTURES

Saturday

MIDDLESEX COUNTY MEDICAL SOCIETY.—At North Middlesex County Hospital, Silver Street, Edmonton, Feb. 21, 3 p.m. Demonstration of clinical cases of surgical, medical, and general interest.

MEDICAL SOCIETY FOR THE STUDY OF VENEREAL DISEASES.—At 11, Chandos Street, London, W., Feb. 21, 2.30 p.m. *"Non-bacterial Infection of the Genito-urinary System,"* by Dr. W. E. Coutts (Chili). Discussion.

Monday

HUNTERIAN SOCIETY.—At the Mansion House, London, E.C., Feb. 23, 8.30 p.m. *"Rheumatism in the Time of John Hunter."* Hunterian Oration by Dr. W. S. C. Copeman.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, Cavendish Square, W.—Feb. 23, 9 p.m. *"Clinical Pathology in Relation to Medical Practice."* Second Lettsomian Lecture by Dr. C. E. Dukes.

Tuesday

INSTITUTE OF DERMATOLOGY, 5, Lisle Street, Leicester Square, London, W.C., Feb. 24, 5 p.m.—*"Anomalies of Pigmentation,"* by Dr. W. N. Goldsmith.

ILLUMINATING ENGINEERING SOCIETY.—At Lighting Service Bureau, 2, Savoy Hill, London, W.C., Feb. 24, 6 p.m. Motion: *"That Artificial Lighting is an Adequate Substitute for Natural Lighting."* Proposers, Mr. L. H. Hubble and Mr. N. Sizer; opposers, Mr. P. V. Burnett and Mr. W. Allen.

Thursday

MEDICO-LEGAL SOCIETY.—At 26, Portland Place, London, W., Feb. 26, 8.15 p.m. *"The Obstetrician and Gynaecologist as a Witness in the Courts,"* by Dame Louise McIlroy.

ST. GEORGE'S HOSPITAL MEDICAL SCHOOL, Hyde Park Corner, S.W.—Feb. 26, 4.30 p.m. *Psychiatric lecture-demonstration*, by Dr. D. Curran.

Friday

BRITISH INSTITUTE OF PHILOSOPHY.—At University Hall, 14, Gordon Square, London, W.C., Feb. 27, 5.15 p.m. *"The Organic State,"* by Mr. G. R. G. Mure.

LONDON CHEST HOSPITAL, Victoria Park, E.—Feb. 27, 5 p.m. *"Acute Pericarditis,"* by Dr. Browning Alexander.

ROYAL MEDICAL SOCIETY, 7, Melbourne Place, Edinburgh.—Feb. 27, 8 p.m. *"Infantile Paralysis."* Dissertation by Mr. T. P. C. Jameson.

UNIVERSITY COLLEGE LONDON: DEPARTMENT OF PHYSIOLOGY, Gower Street, W.C.—Feb. 27, 5 p.m. *"Epidemics and the Public Health,"* by Dr. E. A. Underwood.

Saturday

MEDICAL SOCIETY FOR THE STUDY OF VENEREAL DISEASES.—At 11, Chandos Street, London, W., Feb. 28, 2.30 p.m. Extraordinary general meeting; *"Crime in Relation to Sex,"* by Dr. H. S. Holden. Discussion.

BIRTHS, MARRIAGES, AND DEATHS

BIRTHS

Beatton.—On Feb. 9, 1948, at Stoneleigh, Dawley, Shropshire, to Jenny, wife of Peter Beatton, M.B., Ch.B., a son.

Bishop.—On Feb. 7, 1948, at Nuffield House, Guy's Hospital, London, S.E., to Phylla, wife of Dr. Peter Bishop, 122, Harley Street, London, W., a daughter.

Bloom.—On Feb. 8, 1948, at 52, Kensington Mansions, London, S.W., to Freddy, wife of Dr. Philip M. Bloom, of 30, Weymouth Street, London, W., a son.

Cappon.—On Feb 3, 1948, at Berefields Nursing Home, Bradford on Avon, to Barbara Edna (*née* Williams), wife of Dr. D. Cappon, a son—Paul Scott, brother to Ian and Bruce.

Ferguson.—On Feb. 8, 1948, at Jessop Hospital, Sheffield, to Brenda, wife of Malcolm Ferguson, M.B., B.S., D.O.M.S., a daughter—Anthea Joy Collette.

MARRIAGE

Hirst—Speight.—On Feb. 7, 1948, at Roundhay, Leeds, John Hirst, M.D., M.R.C.P., and Stella Armitage Speight, M.B., Ch.B.

DEATHS

Adams.—On Feb. 9, 1948, at The Old Rectory, Theberton, Suffolk, Philip Edward Homer Adams, F.R.C.S.

Dickinson.—On Jan. 31, 1948, at 5, Airlie Road, Hoylake, Cheshire, William Henry Dickinson M.R.C.S., L.R.C.P.

Franklin.—On Feb. 1, 1948, at Wadhurst House, Newington Green, London, N., Reginald Franklin, M.R.C.S., L.R.C.P.

Gilbert.—On Jan. 31, 1948, at 47, Painswick Road, Cheltenham, Clarence Edwin Lloyd Gilbert, M.R.C.S., Lieutenant-Colonel, I.M.S., retired, aged 85.

Graham.—On Jan. 17, 1948, Roscoe Graham, M.B., F.R.C.S.(C.), aged 58.

Grant.—On Feb. 6, 1948, at 23, Julian Road, Folkestone, Andrew Grant, O.B.E., M.B., Ch.B.

Grenfell.—On Feb. 7, 1948, at Tregeseal, Saltash, Cornwall, Henry Osborne Grenfell, M.R.C.S., L.R.C.P., aged 85.

Guinness.—On Jan. 29, 1948, at St. Thomas's Hospital, London, S.E., Ernest Whitmore Guinness, O.B.E., M.D., aged 82.

Harrison.—On Jan. 10, 1948, at Harington Nursing Home, Calcutta, Cecil Camilupe Harrison, M.R.C.S., L.R.C.P., Lieutenant-Colonel.

Hasham.—On Feb. 7, 1948, at 15, Cranmer Road, Cambridge, Henry Cobden Hasham, D.Sc., M.B., B.Ch., aged 77.

Hodson.—On Feb 9, 1948, Vincent Sutherland Hodson, M.V.O., M.D., F.R.C.P., of Orchard Cottage, Southwater, Horsham, Sussex.

Howell.—On Jan. 28, 1948, at Roque Brune, France, Hector Lionel Howell, O.B.E., M.C., M.R.C.S., L.R.C.P., Colonel A.M.S., retired.

James.—On Jan. 29, 1948, at Southampton Borough Hospital, Henry Walter James, M.R.C.S., L.R.C.P., aged 69.

Johnstone.—On Feb. 2, 1948, at Hairmyres, East Kilbride, Jean Gardner Cathels Johnstone, M.B., Ch.B.Ed.

Lesser.—On Jan. 31, 1948, Samuel Alfred Hugh Lesser, M.B., B.Chir., Major R.A.M.C., of South View, Pinner Hill, Middlesex, aged 36.

McCubbin.—On Feb. 9, 1948, at Portsmouth, Brian Arthur McCubbin, M.B., Ch.B.

McHarg.—On Jan. 29, 1948, at Royal Infirmary, Cardiff, Charles Liddell McHarg, M.B., Ch.B.Glas.

McSorley.—At 442, Antrim Road, Belfast, Frederick McSorley, M.D., F.R.C.P.I., M.P.

Mason.—On Feb. 4, 1948, Philip de Roos Mason, M.R.C.S., L.R.C.P., of 5, De Montfort Street, Leicester, aged 48.

Nunn.—On Feb. 11, 1948 at Victoria Hospital, Barnet, John Wilfred Nunn, M.R.C.S., L.R.C.P., of Pymlicoe House, Hadley Green, Barnet, aged 72.

O'Donoghue.—Recently, James O'Donoghue, M.B., B.Ch.

Payne.—On Feb. 5, 1948, Otto Vaughan Payne, M.B., B.Ch., of Lansdowne House, Alton, Hants, aged 68.

Pendred.—On Feb. 7, 1948, Berthon Fleming Pendred, M.R.C.S., L.R.C.P., of Rooky Wood, Telham Lane, Battle.

Reece.—On Jan. 31, 1948, Richard Harold Reece, M.R.C.S., L.R.C.P., of Hallmoor, Tintagel, Cornwall.

Williams.—At Low Bridges, Stocksfield, Ethel Mary Nucella Williams, M.D., aged 85.

No. 5

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended Jan. 31.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1948					1947 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever	48	6	27	2	1	83	5	23	1	2
Deaths		—	—				1	1		
Diphtheria	200	26	56	11	2	176	9	59	28	13
Deaths	4	—	—	—	—	6	2	1	—	1
Dysentery	208	15	29	1	—	61	3	10	2	—
Deaths				—	—				—	—
Encephalitis lethargica, acute	1	—	—	—	—	2	1	—	—	—
Deaths		1					—			
Erysipelas			39	11	3			41	5	1
Deaths		1					—			
Infective enteritis or diarrhoea under 2 years				21					12	
Deaths	64	8	6	2	1	92	9	14	11	3
Measles*	4,233	340	885	88	13	13,501	482	254	50	767
Deaths†			3	—	—	2	1	1	—	5
Ophthalmia neonatorum	69	3	7	—	1	52	—	16	—	—
Deaths								•		
Paratyphoid fever	4	—	—	—	—	1	—	2 (B)	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenzal	850	56	9	6	8	1,278	79	27	18	7
Deaths (from influenza)‡	24	3	2	—	1	148	23	10	12	1
Pneumonia, primary			260	32				310	39	
Deaths	316	59		11	8		94			19
Polio-encephalitis, acute	4	—				12	—			
Deaths							—			
Poliomyelitis, acute	49	6	3	2	—	1	1	1	8	1
Deaths§	3	—					—			
Puerperal fever		—	4		—		—	18		—
Deaths										
Puerperal pyrexia‖	106	7	12	1	1	126	10	10	1	—
Deaths		—					—			
Relapsing fever	—	—			—	—	—			—
Deaths										
Scarlet fever	1,926	105	355	36	48	1,135	89	288	41	36
Deaths†			—	—	—	—	—	—	—	—
Smallpox	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Typhoid fever	2	—	—	8	2	6	1	1	5	—
Deaths	—	—	—	—	—	—	—	—	—	—
Typhus fever	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Whooping-cough*	2,725	191	32	65	10	1,890	156	295	60	43
Deaths	10	1	—	—	—	13	4	8	3	3
Deaths (0–1 year)	407	66	53	21	14	558	74	78	42	22
Infant mortality rate (per 1,000 live births)										
Deaths (excluding still-births)	5,359	871	709	233	150	7,079	1222	775	326	204
Annual death rate (per 1,000 persons living)			14·3	14·6				16·1		
Live births	8,566	1396	958	414	268	9,677	1485	1189	376	266
Annual rate per 1,000 persons living			19·3	25·9				24·0		
Stillbirths	216	21	43			245	30	38		
Rate per 1,000 total births (including stillborn)			43					31		

* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Deaths from measles and scarlet fever for England and Wales, London (administrative county), will no longer be published.

‡ Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

§ The number of deaths from poliomyelitis and polio-encephalitis for England and Wales, London (administrative county), are combined.

‖ Includes puerperal fever for England and Wales and Eire.

EPIDEMIOLOGICAL NOTES

Poliomyelitis

After the rise last week the figures for the week ended Feb. 7 show a substantial fall in the notifications of poliomyelitis 2[illegible] (49). Notifications of polio-encephalitis 6 (4) rose by 2. Figures for the previous week are given in parentheses. The counties with more than one notification were:

	Poliomyelitis	Polio-encephalitis
London	1 (6)	3 (0)
Essex	2 (2)	—
Hertford	2 (0)	—
Lancs	1 (4)	1 (2)
Middlesex	4 (5)	—
Shropshire	2 (0)	—

Discussion of Table

In *England and Wales* infectious diseases were more prevalent during the week, and an increased incidence was reported for measles 776, whooping-cough 178, dysentery 77, scarlet fever 79, acute pneumonia 70, and acute poliomyelitis 14.

A rise in the incidence of measles occurred in most areas. The largest increases were Northamptonshire 108, Warwickshire 91, Cheshire 67, Norfolk 59, London 56, and Essex 51 while the only decrease of any size was 47 in Staffordshire. An increase in the notifications of whooping-cough was recorded in only a few counties; the largest rises were Yorkshire West Riding 89, Essex 47, and London 33.

The incidence of scarlet fever remained practically constant in most areas; the only increases of note were Yorkshire West Riding 39, Staffordshire 31, and Warwickshire 25. The only large local variation in the returns of diphtheria was a decrease of 10 in Lancashire.

A large part of the increase in the notifications of dysentery was contributed by Lancashire, where the cases rose from 61 to 103. The chief centres of infection in this county were Burnley C.B. 42, Liverpool C.B. 11, Lancaster M.B. 14, and Prestwich M.B. 12. The other large returns of dysentery were Yorkshire West Riding 33 (Sheffield C.B. 22), Middlesex 21, and London 15.

The largest returns of acute poliomyelitis were Warwickshire 7, London 6, Lancashire 4, and Yorkshire West Riding 4. Multiple cases of poliomyelitis were notified in only three administrative areas: Warwickshire, Birmingham C.B. 4; Yorkshire West Riding, Bradford C.B. 3; and Cheshire, Wirral R.D. 2.

In *Scotland* falls were recorded in the notifications of measles 138, acute primary pneumonia 18, and dysentery 14. Nearly half of the cases of dysentery were notified in the north-eastern area.

In *Eire* the notifications of measles declined by 33, while those of whooping-cough rose by 23. The fall in the incidence of measles was general throughout the country, while the rise in the notifications of whooping-cough was due to an outbreak in Wicklow, Wicklow U.D. 20.

In *Northern Ireland* only small fluctuations were reported in the incidence of infectious diseases.

Week Ending February 7

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,943, whooping-cough 2,572, diphtheria 223, measles 5,596, acute pneumonia 1,012, cerebrospinal fever 56, acute poliomyelitis 25, dysentery 160, paratyphoid 6, and typhoid 12.

Written by Harlan Hoyt Horner, the Secretary of the Council on Dental Education of the American Dental Association, *Dental Education Today* (Cambridge University Press, 33s.) represents a layman's views on dental education. He presents an exhaustive survey of the dental schools in the U.S.A. with a comparison of their methods of teaching, and makes suggestions for dental education in the future. The writer is clearly advocating autonomy in the dental profession and does not appear to consider that dental surgery should be regarded as a branch of medicine. With this view all may not agree.

Any Questions?

Correspondents should give their names and addresses (not for publication) and include all relevant details in their questions, which should be typed. We publish here a selection of those questions and answers which seem to be of general interest.

Infants in Tuberculous Families

Q.—*Should any special precautions be observed in bringing up infants whose elder brothers and sisters have developed surgical tuberculosis?*

A.—The question implies that two or more members of the family have developed active tuberculous lesions; it is therefore necessary to search for the source of infection and at the same time to build up the general resistance of the infants by giving them an adequate diet, sufficient rest, and a well-regulated life. The source of infection may be a member of the family, or it may be the milk supply. It is essential that all members of the household should be examined by a chest physician and the milk should be tested for tubercle bacilli. The chests of those who have non-respiratory tuberculosis should also be examined, even though they may have recovered from their disability. If the source of infection is found, precautions must be taken to prevent infection reaching the infants. The latter should be tuberculin-tested to determine if they have been infected; if they are, chest radiographs should be taken, and these should be repeated yearly until the age of 6. If the infants have not been infected, they should be tuberculin-tested every four months so long as they remain in the tuberculous household, and if the skin reaction becomes positive chest radiographs should be taken and repeated every three months for a year to trace the course of the primary infection. In a country where B.C.G. vaccination is practised the negative reactors in such a family would be vaccinated. As the household must be regarded as tuberculous the standard of living should be kept high and all should obtain sufficient rest and nourishment.

Overdosage of Vitamin D

Q.—*The answer to a question on "Cod-liver Oil for Adults" (Sept. 6, 1947, p. 403) states that "the fear of excessive doses of vitamin D has now been shown to be groundless." The most recent paper on the subject that I have come across was by Glynn (J. Amer. med. Soc., 1946, 1, 1208), on "Vitamin D Intoxication: Metastatic Calcification from Massive Doses of Vitamin D." In this paper he deals with one case and refers to many others in which metastatic calcification and death were attributed to overdosage with vitamin D. I should be grateful if you could refer me to more recent work which has disproved this, and to any other work on the subject.*

A.—That answer referred to excessive doses of vitamin D received through taking cod-liver oil. There was at one time a suggestion that even the amounts in cod-liver oil might give rise to calcification, but doubt was thrown on this by Cox and Roos (*Johns Hopk. Hosp. Bull.*, 1934, **54**, 430); and Burack and Zimmerman (*J. Nutrit.*, 1937, **14**, 535) have stated that the dosage of cod-liver oil necessary to induce pathological calcification as a result of antirachitic vitamin would have to be calculated in litres. Correll and Wise (*J. Nutrit.*, 1943, **26**, 641) showed that toxic manifestations from the vitamin D of cod-liver oil given to chicks occurred at 5,000 times the minimal dose.

So far as the toxicity of vitamin D apart from cod-liver oil is concerned, calcification and death have occurred as a result of massive overdosage with calciferol. The administration of enormous doses for lupus vulgaris, vitamin-D-resistant rickets, etc., should be accompanied by constant serum-calcium estimations, and a strict watch must be kept for evidence of kidney damage, as well as for the subjective symptoms of intoxication, such as anorexia, nausea, frequency of micturition, etc. However, even in this field, given the necessary supervision, evidence can be adduced for the safety of massive vitamin D therapy. Steck *et al.* (*Ann. intern. Med.*, 1937, **10**, 951) concluded that human subjects can generally survive the administration of 20,000 i.u. per kg. of body weight daily for indefinite periods without intoxication, but emphasized that kidney dysfunction and arteriosclerosis are contraindications. Macrae (*Lancet*, 1947, **1**, 135) found no evidence of renal damage even in patients in a severe toxic state, and abdominal radiography showed no calcification. He states, however, that it is always a possibility, and constant watch is necessary. Dowling (*Lancet*, 1947, **1**, 44) says that even his own dosage of 150,000 units daily is not a "safe dose," because of individual variation in requirement, but thinks it unlikely that its administration for limited periods would entail any great risk of calcification or other serious sequelae.

Control of Cystinuria

Q.—*Can you suggest any treatment or diet that will inhibit the formation of cystine, or increase its elimination without stone or gravel formation?*

A.—Cystinuria is an inborn error of metabolism which appears to be inherited as a Mendelian recessive characteristic; it affects both sexes and occurs at any age. Cystine lithiasis, however, occurs in only a small proportion of cases of cystinuria and is commoner in younger patients. The amount of cystine excreted in the urine has been found to be increased by a high protein diet and by feeding the sulphur-containing amino-acids—methionine and cysteine—but not by feeding cystine itself. A period of starvation, however, does not cause disappearance of the substance from the urine.

A tendency to calculus formation can be prevented, or at least reduced, by a constant high fluid intake and by keeping the urine alkaline with sodium bicarbonate or sodium citrate, since cystine is soluble in an alkaline solution. Reducing the level of protein intake below that of the present ration scale would be undesirable in an abnormality which will last the patient's lifetime, but, obviously, excess protein intake should be avoided. If the patient develops a urinary infection it must be promptly and adequately treated, as infection greatly predisposes to calculus formation. Mandelic acid therapy for such an infection would clearly be strongly contraindicated, but sulphonamide therapy combined with alkalinization and high fluid intake could be used. Cases have been described in which cystine stones have gradually disappeared under alkalinization therapy.

Demodex Infestation

Q.—*What would be the appearance and signs of a demodex infestation in man? Is there a modern certain cure for the condition (a) in man, (b) in dogs?*

A.—Demodex probably occurs in the skin of more than 50% of Europeans. It does not seem to inconvenience its human host in any way, and the statement that it is the cause of acne lacks scientific proof. It is usually accepted that in dogs it may cause a severe form of mange, but the finding of the parasite in at least 10% of normal animals has raised the question whether its presence in association with the lesions is not purely incidental. The treatment of demodectic mange in animals is notoriously difficult, although success has been claimed with the use of both benzyl benzoate and rotenone. The subject is dealt with by Riley and Johannsen, *Med. Entomol.*, 1932, 1st ed., p. 61; Irwin, I., *Vet. Med.*, 1937, **32**, 318; Davidson, J., *Vet. Med.*, 1945, **40**, 377; and Unsworth, K., *J. comp. Path.*, 1946, **56**, 114.

"Man Value" in Dietetics

Q.—*What is meant by the term "man value" in dietetics? What facts should be taken into consideration in deciding whether the diet of a group of "young persons" is adequate?*

A.—The amounts of food eaten by mixed populations cannot be compared directly one with another or with a standard of requirements, because the quantity required and actually eaten varies with age and sex. As a statistical device for making such comparisons it is assumed that women and children eat definite fractions of the amounts eaten by adult males. To each woman and child of stated age and sex a "man value" is given. An adult male is counted as 1 "man value"; in the scale of Cathcart and Murray, still commonly used, the "man value" of an adult female is 0.83, and the "man values" of children range from 0.2 for a child of 0–1 year to 1 for a boy

of 14 or over. Thus the "man value" of a family, consisting of a man, wife, and three children aged 10, 6, and 2 years, is 1+0.83+0.8+0.6+0.4=3.63. If their food supplies 9,440 calories a day they are getting 2,600 per "man value." These "man values" apply to calories only.

According to the Recommended Allowances of the U.S. National Research Council, boys of 13 to 20 require more calories than adult men, and requirements of other nutrients are highest in this age period. According to this scale of allowances girls of 13 to 15 need more protein and calcium and girls of 16 to 20 more calcium than are required by adult males.

Shock Treatment during Pregnancy

Q.—*Can electric convulsion therapy be continued in a young woman during pregnancy? Can insulin-coma therapy safely be carried out during pregnancy?*

A.—Electric convulsion therapy can be safely continued in the early months of pregnancy, but there is said to be some risk of miscarriage or premature birth in the later months. The writer's own experience is limited, but one patient who had E.C.T. on two occasions when 30 weeks pregnant, and later had an induction of labour, now has a healthy and forward infant.

Insulin coma produces a prolonged anoxia, which is likely to be damaging to the foetus. Treatment of the pregnant woman by this method should therefore be postponed if possible.

Closed-plaster Treatment of Fractures

Q.—*What are the indications for Trueta treatment, and is its efficacy proved?*

A.—The closed-plaster treatment of compound fractures and wounds of the limbs, advocated by Winnett Orr between the wars and extensively used by Trueta during the Spanish Civil War, has now achieved an established place in orthopaedic surgery. The method is indicated particularly in the treatment of wounds, with or without bone injury, when it is unwise to attempt suture of the skin, either because the wound is already grossly infected or appears likely to become so, or because there has been actual loss of skin, rendering suture impossible. In circumstances such as these there is no doubt that the treatment is efficacious in helping to overcome wound infection and in facilitating healing by providing complete rest for bones and soft tissues. It has the additional advantages that it is comfortable for the patient, it entails relatively little work for the nursing staff, and it minimizes the possibility of secondary bacterial infection of the wound.

The main potential dangers of the closed-plaster method are: (1) That in cases of recent injury reactionary swelling beneath the plaster may lead to ischaemia of the limb. In fresh cases the plaster should therefore be split throughout its length, and a careful watch be kept on the state of the distal circulation in order to avoid the possibility of such a catastrophe. (2) That infection with gas-gangrene organisms may develop beneath the plaster and may remain undetected in its early stages. A careful watch for the occurrence of unexplained pyrexia or of suggestive pain should lead to the early inspection of the wound in such a case.

In recent years the combination of early and thorough wound excision with the employment of penicillin and other forms of chemotherapy has made possible the early closure of a large proportion of potentially infected wounds by secondary suture, or even by delayed primary suture, and the indications for the closed-plaster method of treatment have become correspondingly less frequent.

Postprandial Pain

Q.—*What are the significance and mechanism of the relief of postprandial pain by alkali in an alcohol-fast achlorhydric patient? The pain is typical of peptic ulcer—coming on 20 minutes after the meal, quite acute, and controlled by mild ulcer diet.*

A.—The question implies that no ulcer has been shown to be present. Nevertheless, acute pain 20 minutes after a meal associated with achlorhydria is almost certainly due to a gastric ulcer. If expert radiology is available and yet no ulcer is seen, the patient should be examined by gastroscope. Achlorhydria without ulceration never gives rise to clear-cut pain, although diffuse epigastric discomfort may be associated with it. In such cases there is often a great excess of mucous secretion in the stomach, probably linked with a chronic gastritis. It is well known that the giving of acid in such cases aggravates the symptoms, whilst alkali relieves them. This is because the latter aids the solution and expulsion of the glairy mucus.

Werdnig-Hoffmann's Paralysis

Q.—*Is there any treatment which may have some chance of success in a case of Werdnig-Hoffmann's paralysis? The patient is a child of 5½ years whose younger brother died of the same disease some months ago.*

A.—There is no known treatment which offers any prospect of cure or even of arrest of the progression of the disease in cases of Werdnig-Hoffmann's paralysis.

Causes of Haemoptysis

Q.—*In all cases of haemoptysis in which the cause is not immediately obvious to the tuberculosis officer about one in twelve are tuberculous in origin. The others are referred back as non-tuberculous, with the report that x-ray examination of the chest is negative. Is the haemoptysis due to the "strain of coughing"?*

A.—There is no doubt that in chronic bronchitis a severe paroxysm of coughing may be followed by a few flecks of blood in the sputum. However, a plain radiograph of the chest, although it can exclude tuberculosis, cannot do the same for other causes of haemoptysis. A common reason is bronchiectasis, the diagnosis of which requires bronchography. For the exclusion of other causes bronchoscopy is necessary. Nevertheless, when all diagnostic weapons have been fully exploited a number of patients remain in whom no reason for the haemoptysis can be found.

Dysmenorrhoea

Q.—*What is the modern treatment of dysmenorrhoea? An unmarried woman aged 33 gets intense pain during the first 24 hours of each menstrual period. Her periods are otherwise regular, and apparently pursue a normal course after the first 24 hours.*

A.—Dysmenorrhoea is a symptom, not a disease, and its treatment varies with its cause. The spasmodic pain which is common in women aged 18 to 25, and which occurs without any apparent gross abnormality in the uterus, does not usually persist after the age of 30, or at least it becomes less intense. In this case all steps should be taken to find the cause; and the possibility of pelvic endometriosis should be kept in mind. It is specially important to know whether the woman has always had dysmenorrhoea or whether it is a comparatively recent development.

Disseminated Sclerosis and Pregnancy

Q.—*In women suffering from disseminated sclerosis I have observed that pregnancy nearly always produces an improvement—sometimes of long duration. Is this a common occurrence? If so, would the transfusion of blood from pregnant women have any therapeutic value in the treatment of this condition?*

A.—The usual experience is that pregnancy produces a deleterious effect upon the course of a disseminated sclerosis. The procedure suggested is unlikely to have any beneficial effect, and might indeed prove harmful.

Pyrogens

Q.—*Could you tell me what pyrogens are and how "pyrogen-free" water is obtained?*

A.—Pyrogens are almost always dead micro-organisms or their products. These organisms are rarely pathogenic, but are nondescript Gram-negative bacilli or even algae which are liable to grow in water which is not sterilized. Not only should all water used for making up intravenous solutions be distilled but the solutions should be made in it and the product autoclaved soon after distillation, before any such growth can occur.

Heating to very high temperatures or special forms of filtration are said to be capable of removing pyrogens from solutions, but it is better to rely on their original absence from the water used. Impure ingredients, such as glucose, used in making intravenous solutions may also contain pyrogens; it is also possible for them to come over from the original water in an inefficient still.

Immunization against Diphtheria and Pertussis

Q.—*An infant aged 10 months was immunized with diphtheria A.P.T., 0.2 ml. followed by 0.5 ml. six weeks later. I now wish to attempt immunization with pertussis vaccine and propose to use a combined pertussis and diphtheria vaccine. Is there any danger in giving the three recommended doses of the combined vaccine in view of the immunization against diphtheria three months ago?*

A.—If a child has just recently been inoculated with diphtheria prophylactic so that its antibody titre is high there is obviously no advantage to the child in giving further doses of the same reagent immediately. It would be better to follow up diphtheria immunization with two or three doses of alum-precipitated pertussis vaccine by itself. It seems to be preferable to give the two reagents separately rather than in combination until more evidence has been produced about the value of vaccination against whooping-cough. Otherwise, if the pertussis vaccine were ineffective, diphtheria immunization might fall into some disrepute from its association with the ineffective reagent.

Iodine and Hydrogen Peroxide

Q.—*A mixture of two parts tincture of iodine to one part hydrogen peroxide (10 vols.) is sometimes used to irrigate chronic abscess cavities in the belief that the interaction of the two solutions causes the liberation of nascent iodine, which acts as an oxidizing agent. Is this supposition correct? Is it an effective method of treatment?*

A.—There is no purpose in mixing tincture of iodine with hydrogen peroxide. Either of these alone is efficient when used to irrigate, and there is no reason to suppose that a more efficient, "nascent" form of iodine is produced when they are mixed. The iodine in the tincture of iodine and the hydrogen peroxide are rapidly inactivated by contact with the wall of an abscess cavity and must be continually replaced—as they are when used in irrigation.

NOTES AND COMMENTS

Iodine in Whalemeat.—Dr. MARTIN B. WATSON, of the Iodine Educational Bureau, writes: Your correspondent (Jan. 24, p. 183) may be interested to know that at least one estimation has been made of the iodine content of whalemeat. Donald K. Tressler and Arthur W. Wells, of the United States Bureau of Fisheries (Document 967 of 1924), determined the iodine content of some sea foods, and found in fresh whale steak less than 10 microgrammes of iodine and in the water-free substance less than 40 microgrammes in a kilogramme. This is equivalent to less than 10 and 40 parts, respectively, of iodine in a thousand million parts of whale steak. Iodine estimations of this sensitivity are technically so difficult that it is never wise to be dogmatic about absolute iodine contents in single samples. But it is more justifiable to draw a conclusion from a series of relative estimations made by one worker. Thus it is that the figures given for the iodine content of fresh-water fish were twice that of whalemeat; of marine fish at least twenty times; and of lobsters, oysters, and clams—the highest value in the table—over a hundred times. Therefore this suggests that, contrary to expectation, whalemeat is *not* a rich source of iodine.

Treatment of Chilblains.—Dr. D. H. GAWITH (Manchester) writes: In recent letters about the treatment of chilblains, little mention has been made of the need to relieve the intense burning and itching associated with this condition. In view of the wide range of skin conditions in which the antihistamine compounds have proved useful in relieving severe itching, I have tried these drugs in cases of chilblains, and have found that 50 mg. of "benadryl" or 100 mg. of "antistin" have given complete relief within twenty to thirty minutes. As I have met only a small number of cases suitable for trial, I should be interested to know if the method has been used elsewhere, and with what success.

R.A.F. Badge.—Wing-Commander H. M. STANLEY TURNER writes: It is not generally known that the late Group-Captain Henry Cooper, whose obituary notice appeared in the *Journal* of Jan. 10 (p. 80), designed the very neat badge of the Royal Air Force Medical Branch, the winged caduceus surmounted by a crown. I think this deserves to be placed on record. It replaced the huge and very ugly badge which used to be known as "the coffin-plate."

Persistent Hiccup.—Dr. J. D. LAYCOCK (London, S.E.1) writes: Under the heading "Any Questions?" (Jan. 31, p. 237) I was disappointed to see no mention of hyoscine in your reply to a question on the treatment of hiccup. During the war I saw a large number of cases of severe hiccups in men who had been wounded in the lower chest or upper abdomen. I treated these in practically all cases with hyoscine as soon as it was clear that the simpler methods, such as breath-holding, were of no avail. The results were so good compared with those obtained with other drugs that I became convinced that hyoscine was the first line of attack and that if it failed nothing else would succeed. The usual routine was to give gr. 1/200 (0.32 mg.) under the tongue and to repeat this after half an hour if the attack had not ceased.

It is difficult after a dozen remedies have been tried to be certain which was the successful one in aborting an attack of hiccups. In view of my observations on cases occurring in injuries of the chest and abdomen I was not surprised, however, to meet a case recently in a man who had had a thoracolumbar sympathectomy, and on whom a large variety of remedies had been tried in vain for nearly forty-eight hours. The hiccups stopped as soon as hyoscine was given, and did not return. I once cured myself of a particularly stubborn bout of hiccup, when the more homely remedies had failed, by taking hyoscine orally, while acting as M.O. to a troop ship in rough waters when seasickness was common. It is strange that this simple but very effective remedy for hiccup should be so little known and scarcely mentioned in works on treatment. It must surely be more pleasant than "atropine in large doses" and more easily obtained than pineapple juice.

Constipation in an Infant.—Dr. WINIFRED M. COPPARD (Dunmow, Essex) writes: . . . I am not an advocate of magnesia in any form given to infants, and consider it harmful, although so popular with nurses and doctors. Given daily, as it often is, or even twice daily, it results in an uncomfortable "windy" baby, and in the end a bowel which relies on artificial stimulation. If any doctor would like to prove this let him take a full adult dose once or twice daily for a while (as I have done). Quite recently two infants were brought to me, as they passed blood with the motions. On examination nothing abnormal was found; further questioning evoked the fact that both infants had been given magnesia over a long period. When this was stopped there was no further occurrence. In my opinion, far too little effort is made to adjust feeds and use common-sense methods in these cases of so-called constipation, and a far too frequent resort to laxatives. My opinions are based on and proved by the thousands of infants who have passed through my child-welfare clinics during the last seven years.

Injection of Varicose Veins.—Dr. J. W. HAUGHTON (Truro, Cornwall) writes: In the *Journal* of Jan. 24 (p. 183) under "Any Questions?" there was a note about injection of varicose veins. The questioner complained of the marked discoloration of the vein after injection. I think he might try "empty-vein technique," which I worked out for myself when serving as a surgeon in Falmouth in the first war. I elevate the limb and get the veins empty, put on a mild tourniquet above the area to be treated, and inject a large amount of the sclerosing fluid. Patient rests half an hour with the leg bandaged—and he can then walk off.

Treatment of Warts.—Dr. JEAN WILSON (Glasgow) writes: An excellent treatment for warts on the hands (culled from the *Journal* many years ago and used ever since) is the application of liquor hydrarg. nit. acid. (B.P.C.). "Vaseline" the surrounding skin and apply carefully with a probe (which should be wiped after), allowing to dry in for a few minutes if possible, before the patient goes home. Apply every three or four days. Very soon the warts break down. An intelligent patient can be given the prescription and allowed to use it himself.

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